THE THIRD REPORT OF THE PEW HEALTH PROFESSIONS COMMISSION

Critical Challenges: Revitalizing the Health Professions for the Twenty-First Century

Pew Health Professions Commission

DECEMBER, 1995

Preface

The American health care system is now experiencing the most dramatic transformation in its history. While it is impossible to identify precisely where all changes are headed, the general direction of the reforms is clear. Today the focus is on the **transformation of the organization and financing of health care,** but soon this new system of care will realize the central role of all health professions in delivering care that improves quality, lowers costs and enhances patient satisfaction. The transformations demanded of health practitioners and the educational programs that produce and support them are so enormous as to be dislocating.

This report is intended to be a guide to health care professionals, schools and governing and policy bodies that direct their efforts in how to survive and thrive in this radically different health care world.

In its first two reports the Pew Health Professions Commission affirmed that the education and training of health professionals were out of step with the health needs of the American people, and offered tools of reform suited to the time and tasks at hand. In *Healthy America: Practitioners for 2005*, published in 1991, when the promise of change seemed distant and uncertain, the Commission set out 17 competencies describing the skills and attitudes needed by the health care providers of the twenty-first century. Two years later the Commission published *Health Professions Education for the Future: Schools in Service to the Nation*, offering specific reform strategies for each of the health professions at a time when a national consensus on reforming the health care system seemed imminent.

As we issue this third report from the Pew Health Professions Commission, the American health care system, including the means by which its providers are trained, is being transformed. **Change is moving across the United States at every level of the health care system,** from local alliances of physicians, hospitals and insurance agencies to state licensing boards to the academic health centers. It is largely an ungoverned transformation, unplanned and undirected by central authority, and its pace is uneven—rapid in areas where market forces work freely, glacial in academic and bureaucratic arenas—but it is inexorable.

All of the paradigms emerging from this change are familiar. Most, such as increased reliance on primary care, disease prevention and cost containment, were cited in *Health Professions Education for the Future: Schools in Service to the Nation* (see **Table 1**).

TABLE 1
Characteristics of the Emerging Health Care System
from Health Professions Education for the Future: Schools in Service to the Nation

Orientation Toward Health	Constrained Resources
Population Perspective	Coordination of Services
Intensive Use of Information	Reconsideration of Human Values
Focus on the Consumer	Expectations of Accountability
Knowledge of Treatment Outcomes	Growing Interdependence

While the federal government has been unwilling or unable to provide leadership or planning for needed workforce development, **many of the instigators of today's change are unexpected.** A number of states have been acting as laboratories for a wide range of fiscal, legislative and licensing reforms. While some academic centers and teaching hospitals are responding slowly or not at all to the demands of the health care purchasers, some of these purchasers are forming alliances with medical schools or developing their own managed care colleges to ensure themselves adequate supplies of primary care providers with the knowledge and skills necessary for the future. Some of these developments are profiled in the case studies which begin on page 40 of this report.

In the face of such random movement, contradiction and exception, we need a moment to take stock.

In this report we offer:

- a broad assessment of the current state of reforms across the health professions
- specific examples of those reforms
- a set of recommendations which we hope will serve as an early twenty-first century survival guide for America's health care professions
- an overall assessment of how far we have come in the process of overhauling the health care system in light of the principles which inform the Commission's work.

These principles are based on our understanding of what health care consumers and providers have the right to expect from American health care, and it seems a good beginning to state them explicitly here.

The Mission, Values, and Work of the Pew Health Professions Commission

Over the life of the Commission its goals have shifted in emphasis in its response to the dramatic changes surrounding health care, but the content has remained constant.

The goals of the Commission are to:

1. Elevate health professions and workforce issues as an essential part of the debate about health care change.

2. Create a set of competencies for successful health professional education and practice in the emerging health care system.

3. Provide resources and services in the form of research, policy analysis, technical assistance, advocacy, grants and programs to policy makers, institutional leaders, and health professionals as they work to integrate this vision and these competencies into daily practice.

The early work of the Commission was influenced by the identification of a broad set of competencies that the Commission believes will mark successful health professionals' work early in the next century (**Table 2**). In addition, the Commission has worked to **encourage decision makers at the federal, state and professional levels to make alterations in their programs and policies that promote the development of the competencies.**

These competencies represent the core elements of the Commission's vision of successful health professional practice in the future. While they have been the subject of the first two reports of the Commission, they merit more detailed summary and some updating here.

TABLE 2
Pew Commission Competencies
from Healthy America: Practitioners for 2005.

Care for the Community's Health	Assess and Use Technology Appropriately
Expand Access to Effective Care	Improve the Health Care System
Provide Clinically Competent Care	Manage Information
Emphasize Primary Care	Understand the Role of the Physical Environment
Participate in Coordinated Care	Provide Counseling on Ethical Issues
Ensure Cost Effective and Appropriate Care	Accommodate Expanded Accountability
Practice Prevention	Participate in a Racially and Culturally Diverse Society
Involve Patients and Families in the Decision Making Process	Continue to Learn
Promote Healthy Lifestyles	

It is the Commission's belief that all health care practitioners should have the following competencies by 2005:[i ii]

A. Care for the Community's Health

For too long the focus of most health professionals has been on the delivery of care to individuals who present particular maladies. In the future **practitioners will have to possess a broad understanding of all the determinants of health, such as the environment, socioeconomic conditions, behavioral health care, and human genetics** to be able to effectively fulfill their roles as professionals. This broader perspective and different set of skills will, of necessity, be oriented to integrating a range of services across professional, disciplinary and institutional settings that will promote, protect and improve health.

B. Expand Access to Effective Care

With the demise of a national government-sponsored public policy to provide universal access to health insurance, **health professionals will increasingly find themselves called upon to expand access to effective care.** This competency will take many forms, sometimes putting the health professional in a position to distribute health resources more efficiently in order to reach the optimal number of consumers and at other times to act as the spokesperson for patients and communities with unmet health needs. The role of activist and advocate is not a new one for the health care professional, but it is one that must be recovered and forged anew within the context of managed care.

C. Provide Clinically Competent Care

With their public responsibilities, health professionals will remain obligated **to serve their individual patients with competent, contemporary clinical care.** The relationship between the individual seeking help and the care provider must continue to be the defining characteristic of the U.S. health care system. To be successful the health professional must commit to maintaining and advancing competence over a lifetime of clinical practice.

D. Emphasize Primary Care

The system that is emerging will be integrated through delivery of primary care. This will mean that **all health practitioners, *generalists and specialists,* must be able to understand the values and functions of coordinated, comprehensive, and continuous care and direct their practices to support such goals.**

E. Participate in Coordinated Care

The complexity and acuity of care needs in the emerging system will require the health professional to be able **to work effectively as a team member in organized settings that emphasize the integration of care.** As these integrated systems of care become the dominant source of health care services, health professionals must learn how to ensure the highest levels of quality care through such systems. This will entail working more effectively within health systems and relating that work to other social and academic organizations.

F. Ensure Cost-Effective and Appropriate Care

Most of the public and private sector demands for reform are being driven by the realization that health care is consuming too much of the nation's resources. Individual practitioners must be responsible for providing cost-effective and appropriate care. This does not mean holding cost as the paramount value in health care, but it does mean that the provider must work to utilize resources in a thoughtful and rational manner. The system that is emerging will press for price and cost reductions, and health professionals must participate in this process or abdicate it to non-clinicians. Such an abdication would not be in the interest of the nation's health. **It is essential that health professionals are competent and willing to manage the cost of care.**

G. Practice Prevention

One of the potential positive outcomes of a more integrated system of care—particularly one which holds provider organizations financially responsible for patient outcomes—is the new value that will be placed on active prevention programs. To contribute to this opportunity, **all health care providers must be able to understand when and how to use primary and secondary preventative strategies.** These must be a part of the clinical competence of all providers.

H. Involve Patients and Families in the Decision-Making Process

The promised transformation in health care will require a redistribution of that responsibility away from the system and back to the provider and consumer. To aid in such a transformation, **practitioners must be able to assist patients and their families to participate actively in decisions regarding their personal health care.**

I. Promote Healthy Lifestyles

The overriding focus of health care in America has become the treatment of individuals, particularly with acute care needs. Clearly the system that is emerging will push to balance this orientation with one that stresses prevention and education to minimize the onset of disease states and allocates resources to managing them when they do occur. To balance prevention and treatment, **practitioners must be able to help individuals, families and communities maintain and promote healthy behavior.**

J. Assess and Use Technology Appropriately

Many of the costs of the U.S. system of health have been driven up by the creation and use of new technologies to diagnose and treat disease. Too often these technologies are used without regard to whether they add real value to the system or improve the quality of care for the individual patient. **The practitioner of the future must be able to understand and apply increasingly complex technologies in an appropriate and cost-effective manner. This will mean balancing clinical and system demands.**

K. Improve the Health Care System

The health care system has become and will remain enormously dynamic. What was once a well-established pattern of professional relationships, payment mechanisms, and institutional arrangements carried out in the private, not-for-profit world has become a swirl of new systems, patterns of professional practice and ownership schemes. **Health professionals cannot ignore such developments and must be able to understand the operations of the health care system from a broad economic, social, political, legal, systems and organizational perspective.** This understanding should be focused on removing cost while remaining informed by the knowledge and skills available for making and accelerating the improvement of clinical services.

L. Manage Information

Clearly, the new system will be driven by information. The communications and information technologies that have emerged over the past decade have become important drivers of the emerging health care system. Without such resources the integration and management of care at the levels currently anticipated simply would not be possible. To remain a vital part of a complex, managed, information-driven system, **health professionals must be able to manage and use large volumes of scientific, technological and patient information in a way that helps them deliver effective clinical care in the context of community and system needs.**

M. Understand the Role of the Physical Environment

Many of the problems patients present with today are derived directly from the degradation of the natural and social environments. Treating these symptoms without an ability to understand and address the root cause will not be sufficient. **Health practitioners in the next century must be able to assess, prevent and mitigate the impact of environmental hazards on the health of the population.**

N. Provide Counseling on Ethical Issues

The most pressing issues facing health care reform and change are fundamental concerns having to do with how social resources are spent, how decisions are made, how individuals take responsibility for their health and what role society plays in ensuring against risk. **Practitioners of the future must be able to frame their work in ethically sensitive ways and provide education and counseling for patients, families and communities in situations where ethical issues arise.**

O. Accommodate Expanded Accountability

Health practitioners continue to enjoy remarkable professional freedom. By and large this professional independence has served the public and individual patients well, but it is also much of the source of runaway costs and lack of responsiveness to consumers and purchasers of care. In order to participate in the system which is currently being transformed,

professionals must be responsive to increasing levels of public, governmental, health system and health plan scrutiny in shaping and directing the health care system.

P. Participate in a Racially and Culturally Diverse Society

Effective health care cannot come in a single form to fit the needs of everyone in a society as diverse as in that in the U.S. To provide appropriate care, **practitioners must be able to appreciate the growing diversity of the population and the need to understand health status and health care through differing cultural values.**

Q. Continue to Learn

The skills, competencies and values for a successful lifetime of professional practice cannot be learned in a single educational encounter. Rather, the health professions must recapture the tradition of a continuing commitment to learning. The rate of change in the health care system makes this commitment imperative for the practitioner and society alike. This commitment must transcend passive, continuing professional education and move towards clear standards of continuing competence.

These competencies and the vision of the future health care practitioner that they represent exist within a values framework that has and continues to guide the Commission's recommendations and work.

The following values reflect the Commission's beliefs regarding the important steps to improving health care delivery, the public's health, and the quality of care.

Access to Care for All

The U.S. health care system will never be judged successful until all members of society have access to affordable health care benefits that ensure a full range of preventive services, basic medical care, and protection from the extraordinary costs of hospitalization.

Cost-Effective Use of Resources

There is growing concern that our enormous investment in health care is not producing the level of return that we expect. Just as other social services and industries have been forced to become leaner in the last two decades, the health care industry now faces the necessity of doing more high-quality work, less expensively and more appropriately. Using resources more efficiently will require better design, and more efficient and effective leadership and management. In a market-driven system, public accountability will have to extend to the issues of over-utilization and under-utilization.

Market Efficiency and Public Compassion

Clearly, health care reform is being driven in large part by the dynamics of the marketplace. There is much that is laudable in this, as the market will push health care to more fundamental and innovative change at a much faster pace than policy or politically based reforms. However, a health system that is motivated only by competition and quest for profit alone cannot serve the interest of the public. Market forces do not have a proud record of service for the poor. Further, large segments of the population of the United States are served by single hospitals and groups of physicians. Creating competitive strategies for these situations will likely be unfeasible toward improving the health of the public.

Orientation to Health Rather than Medical Care

While our nation's huge investment in biomedical research has paid dividends, they are not equal, by a factor of five, to the gains in life expectancy owed to changes in nutrition, sanitation, prevention, and other public heath measures. Attention to population-based approaches to health care will have to become balanced with biomedical approaches. Focusing attention on the health status of individuals and communities will be the key to realizing this balance.

Participation by the Public, Both Individually and Collectively

For too long the health care system has bred passivity in patients and the public. Removing the public from decision-making, both clinical and economic, has left most Americans ignorant of the realities of health care costs, uninformed about healthier patterns of living, and dependent on health care professionals. The movement of the economics of health care from fee-for-service private practice to capitated managed systems of care does not ensure that this dependency will be broken. The system must be restructured to address public participation in two ways:
1) The general public must be engaged in deliberations about health and how it is addressed in our society. This will require creative approaches by public agencies and private systems; 2) Individuals must also be more actively involved in making choices about their health care, contributing to their well-being and ensuring the responsiveness of the systems as they emerge. This will be accomplished by giving consumers more decision-making opportunities, more and better information and ensuring that there are true choices to be made in the health care market.

Evidence-Based Decision-Making

Currently, the health care system is structured and based on science, but governed and managed by opinion. In order to be more accountable, to use resources more effectively, and to be more population-based and inclusive, the system must come to be understood and led by more rational and dispassionate discourse. As paradoxical as it may seem, it is rational discourse and evidence-based deliberation that have the potential to help form a more humane system and to lead to the more efficient use of resources that mitigate against crass schemes of health care rationing.

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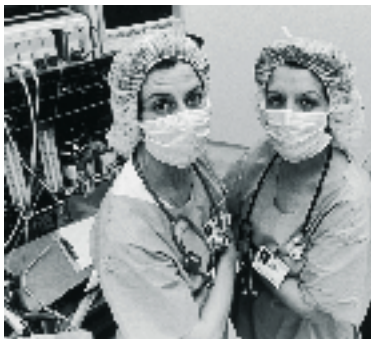
i O'Neil EH. Health Professions Education for the Future: Schools in Service to the Nation. *San Francisco, California, The Pew Health Professions Commission, 1993.*

ii Shugars DA, O'Neil EH, Bader JD, eds. Healthy America: Practitioners for 2005, an agenda for action for U.S. health professional schools. *Durham, NC, The Pew Health Professions Commission, 1991.*

I. Introduction



American health care is experiencing fundamental change. What was recently conceived as a set of policy changes for reform is now being lent the form and weight of institutional reality by the enormous power of the trillion-dollar health care market. In five brief years the organizational, financial and legal framework of much of health care in the U.S. has been transformed to **emerging systems of integrated care that combine**
primary, specialty and hospital services. These systems attempt to manage the care
delivered to enrolled populations in such a manner as to achieve some combination of cost reduction, enhanced patient and consumer satisfaction, and improvement of health care outcomes. Within another decade, 80-90% of the insured population of the U.S. will receive its care though one of these systems.

The new system is emerging in fits and starts. The reforms are not uniform across the country, and they are materializing in various regions at different rates. What seems coherent and rational from one vantage point is likely to seem confusing, irrational and dangerous from another. The force behind these changes clearly is derived from a powerful market, much of which is driven by the decisions individuals make—one at a time. The direction and content of reform must also be shaped by the needs of society. This requires that change also be informed by public conversation and discussion, something for which there is not always an available forum.

The health care system that is emerging will be an amalgam of different public and private forces, including the needs of the public, demands of health care providers, available resources, professional input, institutional traditions, market pressures and consumer choice.

It is the vision of the Pew Commission that by the end of the century these forces will interact in such a manner as to produce an American health care system that will be:

- **more managed** with better integration of services and financing
- **more accountable** to those who purchase and use health services
- **more aware** of and responsive to the needs of enrolled populations
- **able to use** fewer resources more effectively
- **more innovative** and diverse in how it provides for health
- **more inclusive** in how it defines health
- **more concerned** with education, prevention and care management
- **more oriented** to improving the health of the entire population and less focused on treatment
- **more reliant** on outcomes data and evidence.

Because health care is a labor intensive enterprise, the next stage in our present cycle of change will demand a rapid transformation in the ways we educate and train health professionals, finance their education, and permit health professionals to practice. In response to this set of circumstances, the system that both produces health professionals

Introduction

and the structures in which they work will shift away from its supply orientation. Until now educators and professionals have directed what is taught, to whom, in what location, and have decided who is permitted to practice and within which scope of practice. The emerging health system will transform these arrangements into a demand driven system, a system that will provide increasingly articulate formulations of what kinds of professionals are needed, with what skills, trained in what numbers and how and where they should practice.

This **demand-driven system** in health care and health professions practice will create difficult realities for many health professionals and great opportunities for others. Some of these realities will be:

CLOSURE of as many as half of the nations hospitals and loss of perhaps 60% of hospital beds

MASSIVE EXPANSION of primary care in ambulatory and community settings

A SURPLUS of 100,000 to 150,000 physicians as the demand for specialty care shrinks; a surplus of 200,000 to 300,000 nurses generated as hospitals close; a surplus of 40,000 pharmacists as the dispensing function for drugs is automated and centralized

CONSOLIDATION of many of the over 200 allied health professions into multi-skilled professionals as hospitals and health systems re-design their service delivery programs

DEMAND for public health professionals to meet the needs of the market-driven health care system

FUNDAMENTAL ALTERATION of the health professional schools and the ways in which they

organize, structure and frame their programs of education, research and patient care.

The forces driving these changes have less to do with a narrowly defined health care system and its needs, and more to do with changes in science, technology, economics, demography, epidemiology, social values, education and other global factors. These changes will produce tremendous dislocations in the system of education and professional practice. If institutional, professional, and policy leaders are to successfully manage the transition, they must rely on a balance of market innovations and public policies and be prepared to fundamentally change many of the polices and programs that have shaped the organization of the health professions over the past five decades.

Four general areas requiring attention are: 1) the ways in which health professional work is organized in health delivery systems, 2) the ways in which health professionals are regulated for practice, 3) the size of the health professional workforce and how its education is organized and conducted, and 4) the skills that health professionals bring to the health workplace.

Changing these areas involves a complex set of institutions—federal and state, public and private, local and national. There simply is no one place to enact these changes. Rather, the complex of federal policy, both legislative and executive, professional associations, schools and colleges, state regulatory and legislative bodies, and the public must address these concerns within the context of their understanding of the issues and the purview of their institutional or professional missions.

This report is intended to be a guide for surviving the transformation and thriving in the emerging health care culture. It is an attempt to balance market-driven realities, institutional prerogatives and public need. Failure to take up these challenges by institutional, professional or policy leaders is an abdication of their responsibilities to their patients, their students and ultimately to the public they are obligated to serve.

II. The Changing Nature of Health Care

A National Problem

At the beginning of this century, Abraham Flexner chronicled the start of a revolution in medicine and health care that would substantially alter how medicine is practiced, physicians are trained, research is valued, science is directed and public resources for health care are expended.[i] Within two short decades of his initial study, a host of factors including understanding of basic disease mechanisms, availability of new technology and a focus on expanding understanding through organized research shaped and directed American medicine so that it **moved from dependence on often ineffective and crude techniques, to a great period of discovery, innovation, and application.** By the end of the century, many of the infectious diseases that had plagued mankind from the beginning of time were greatly reduced, first in this nation and, in some cases, throughout the world. Advances in surgical techniques moved beyond basic asepsis and anesthesia, to a world of organ transplantation that bordered on the miraculous. Pharmaceutical treatments that had once been essentially limited to analgesics blossomed on the basis of the new biology to create a cornucopia of remedies for treating acute disease and managing chronic aliments more effectively.

These phenomenal developments inform and shape the ways in which our nation thinks about its health, how it receives medical care, how it funds the health care system, and how individuals regard their own well being and their responsibility for it. For most of this century, changes in medicine went unquestioned by a public that saw itself benefiting from these developments. Abundant resources went into research and education. Physicians were paid increasingly higher fees for working these miracles. Communities indebted themselves to buy bigger and newer facilities in which health professionals could practice, bidding up the cost of the technology to furnish these institutions, even when neighboring facilities duplicated these services and resources. Participation in insurance plans to ensure affordable access to these health care blessings became one of the principal objectives of employees, retirees, and the public at large. **Anyone who scrutinized these advances was thought to be shortsighted, if not malevolent.** The system that emerged was rationalized by the health professions as they understood and experienced the world and for some time corresponded with what served the public's interest.

Now for more than a decade, the gears of this mechanism have been grinding. This friction has many sources and symptoms. Fundamentally, **the costs of sustaining the system are no longer tenable.** As recently as 1960, the nation spent less than six percent of its productive effort on health.[ii] The nation now spends one dollar out of every six to provide health care, over $3,000 for every individual, when no other nation spends more than $2,000 per person.[iii] For this expenditure the nation still leaves **15% of the population, or 45 million people—and one million more people each month—without a plan for regular health care.** It is increasingly evident that individually and collectively we would be better off with a wiser and more careful deployment of the nation's health care resources.

Finally, the nation's long unquestioning love affair with unlimited growth, proliferation and utilization of the technologies of treatment, has been chastened with the idea that limits, of both an economic and humane nature, are not only necessary but desirable.

The Medical-Industrial Complex

Since the second World War, a confluence of powerful and dynamic forces has created this complex called, "the U.S. health care system." It is one of the largest economic structures in the world, with enormous resources and talented leaders. Yet, it increasingly finds itself unable to respond in a satisfactory manner to the needs of policy makers, the purchasers of health care and the public at large.[iv] To understand this system, how it will change, and its impact on health professional education and issues it is necessary to look more closely at the forces that have shaped health care and some of its characteristic elements.

STRUCTURE

Figure 1 is a representation of the U.S. health care system as it existed in 1981. At the top of the diagram is one of the most characteristic elements of the American health care system: **individual consumer choice of health care provider.** This freedom was often exercised without access to useful information, yet it was and remains of paramount importance to the American public. In consultation with that provider, a second round of choices were made as to the organizational setting for the care received, the prescription filled or the service rendered.

After these initial consumer decisions, however, it is clear that this is a system dominated by decisions and power of the health care practitioners, particularly physicians. It is the health care provider who created and generally made choices about diagnosis and treatment, decisions about procedures to follow, decisions about who is and is not clinically competent to practice, decisions about the resources to be spent in particular cases. Moreover, it is the physician or other health care provider who made decisions about the

FIGURE 1

Health Care System In U.S. (circa 1981)

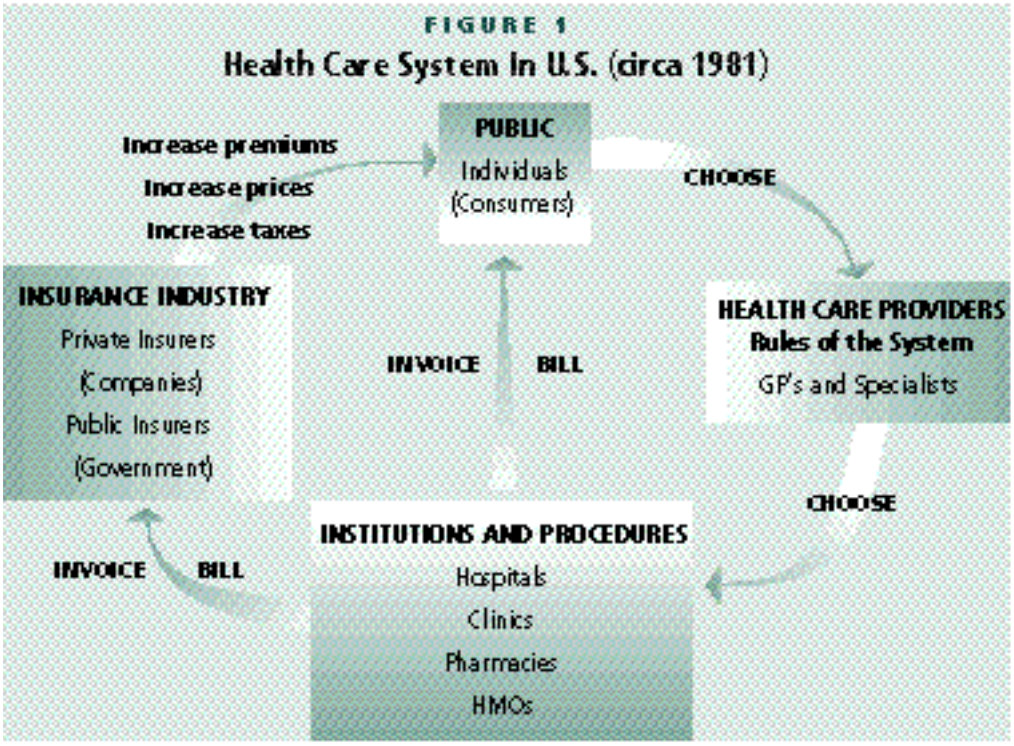


TABLE 3

Percent of Gross Domestic Product Allocated to Health Care

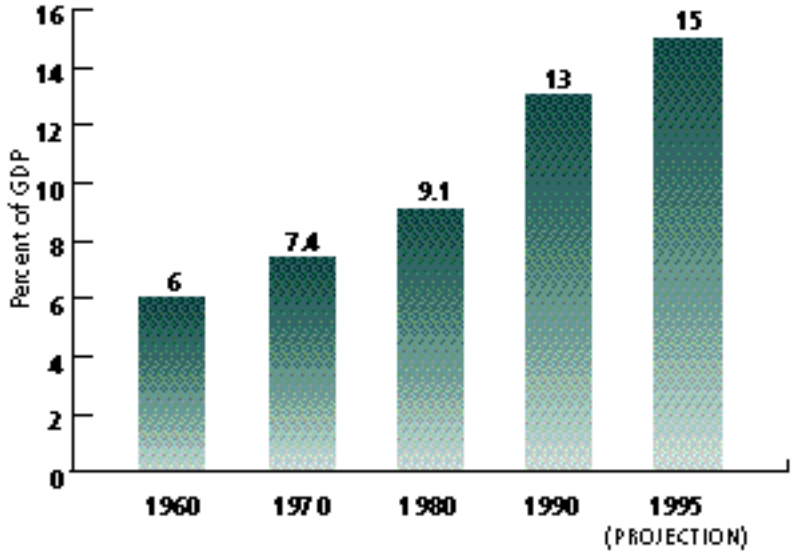


TABLE 3

Sources: Statistical Abstract of the United States, 1993 (113th edition). *Washington DC: U.S .Bureau of the Census, 1993. Ribner SA, Stewart JM.* 1993 National Health Care Survey of American Values and Health Care Reform. *Washington DC: Group Health Association of America, 1993.*

use of service organizations such as hospital, nursing home, and rehabilitation facilities. Here, once again, the professional's judgment was the final and unquestioned authority as to how the service organization was to be run, how it would be staffed and what new services it would offer and what equipment would be purchased.[v]

All of this was done in the interest of the patient. Physicians and hospitals remained accountable, morally and legally, for how well or ill they served the interests of the patient. However, these choices were made with little, if any, effective oversight or involvement by the patient, the payer of the health care bill or the public at large. The fact is, **until recently, there were no public or private checks on the cost, quality or consumer satisfaction of care delivered.** There were limited ways to assemble useful information, limited ways to evaluate it and limited ways to correct the system.

This system developed in a time of both plentiful resources and proliferation of knowledge and technology associated with the biomedical sciences, resulting in a great array of new services and ability to pay the price of these new services. As **Figure 1** indicates, the bill for all of this growth was passed directly along to the insurance companies, both public and private, and, to some extent, to individuals consuming health care. Ultimately, of course, the bill was passed along by the insurers to the public in the form of higher premiums, higher taxes and more costly goods and services. **Table 3** demonstrates the impact of such a system on the total cost of health care. Health care in such a system was financed, in part, like the defense industry—cost plus some return on investment. Unlike the defense industry, the health care system did not have a budget voted every year, but passed the ever increasing bill along to the payers. **As good a system as this one was in terms of innovation and individual choice, it nonetheless failed to hold leaders accountable for the costs or the outcomes of the system.**

TABLE 4

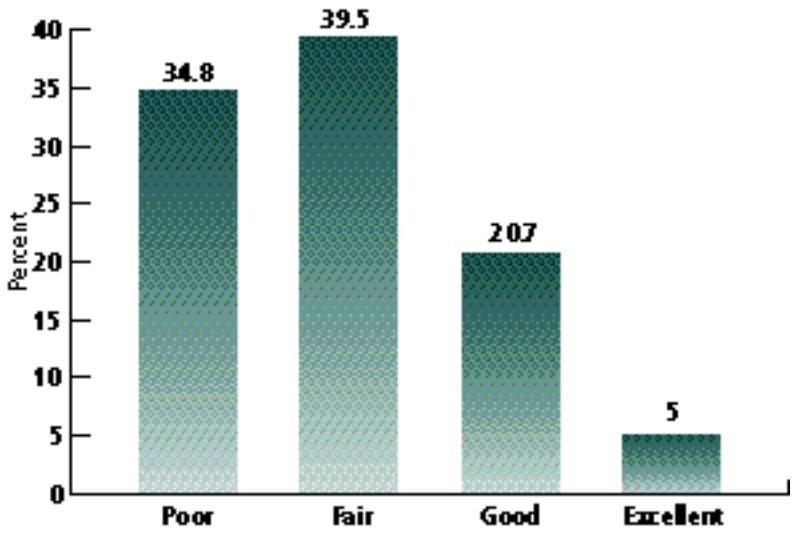


TABLE 4

Source: DiMatteo R, et. al. Americans' Views of Health Professions and the Health Care System. *Health Values, 19 (5), pp 23-29.*

As **Table 4** demonstrates, even individual consumers who have valued the system because of the "consumer choice" in selecting physicians increasingly have become disgruntled with the lack of responsiveness of a system with so little accountability.

TABLE 5

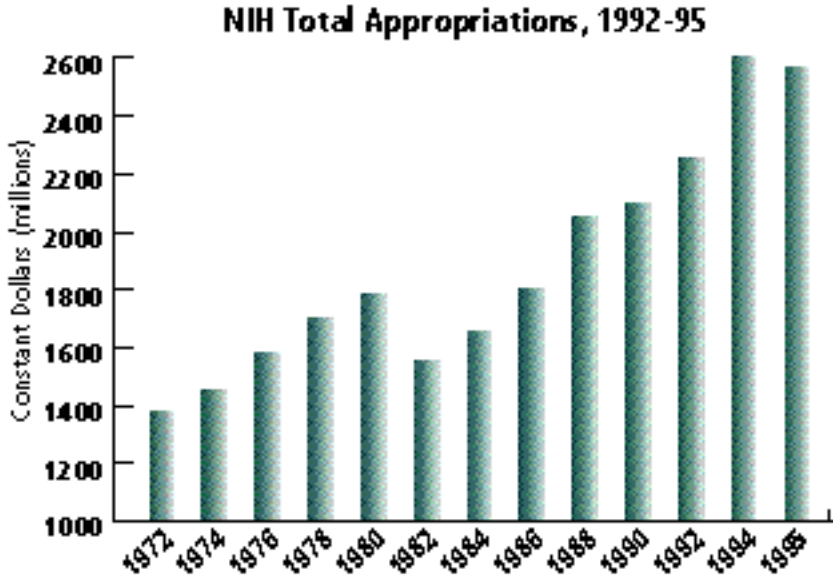


TABLE 5

Source: NIH Office of Financial Management, Office of the Director, Division of Budget Formulation and Presentation. May 1995.

TECHNOLOGY

As a culture, Americans have always believed in the social rewards of technology and engineering. One of the outcomes of World War II was the recognition by U.S. policy makers of the efficacy of investment in basic sciences as a way of making breakthrough discoveries,

TABLE 6

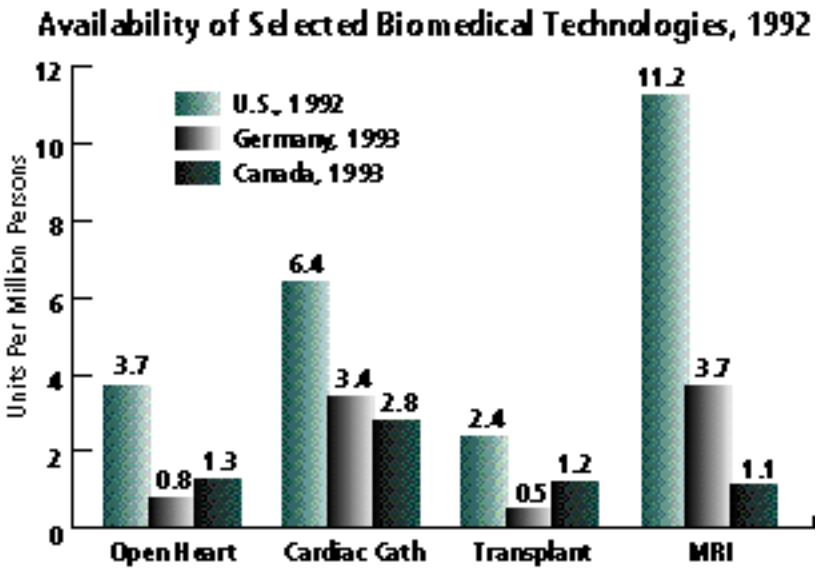


TABLE 6

Source: Rublee D. Datawatch: Medical Technologies in Canada, Germany, and the U.S. *Health Affairs, Fall 1994.*

such as those that surrounded the Manhattan project. **Table 5** indicates that there has been significant growth in this investment, most of which found its way into the health professional educational institutions, particularly medical schools. So great was the investment that, in 1960, fully half of the medical school budgets came from research support.

All of this led to the discovery of new biomedically relevant principles and the development of new diagnostic and treatment technologies. Considered individually, these technologies seemed helpful; but, when considered in the aggregate and when coupled with the expansive pressures of the health care economy, described above, the technologies and their cost began to exceed reasonable judgment of benefit versus the nation's health care needs. **Table 6** exhibits the U.S.'s significant commitment to expanding biomedical technology.

SPECIALIZATION

Driven by the specialization of knowledge, the demands and possibilities of emerging technologies, and the rewards of professional practice, the post-war period was also a time of tremendous specialization across the range of health professions. Nowhere is this trend more obvious than in the proliferation of allied health professionals. With the demands to master the new technologies and the available resources to expand staffs, allied health professionals have grown. Today, they embody over 200 recognized specialties. Following the lead of medicine, allied health practitioners and all other health professionals pushed for exclusive licensing of their "scopes of practice," expanded time in the pre-professional curriculum, and tighter control over the accreditation processes for training programs. **Many of these "defining" practice activities found their way into state and federal law, thus encoding these "work rules" into the force of law.**

Medicine also experienced this transformation. As recently as 1960, over half of the physicians practicing in the U.S. did so as generalists. By 1992 the number of generalists in practice had fallen to 35% of the total, and in that same year only 13% of medical graduates chose residency positions that would prepare them for practice in primary care.

The Changing Nature of Health Care

Throughout the health professions, the ideal of **specialization came to dominate** the patterns of training, the orientation of professionalism and the ways in which health care services are reimbursed.

CENTRALIZATION

Integrated with the expanding health care expenditures, proliferation of technology and increasing specialization has been the centralization of health care into in-patient hospital

TABLE 7

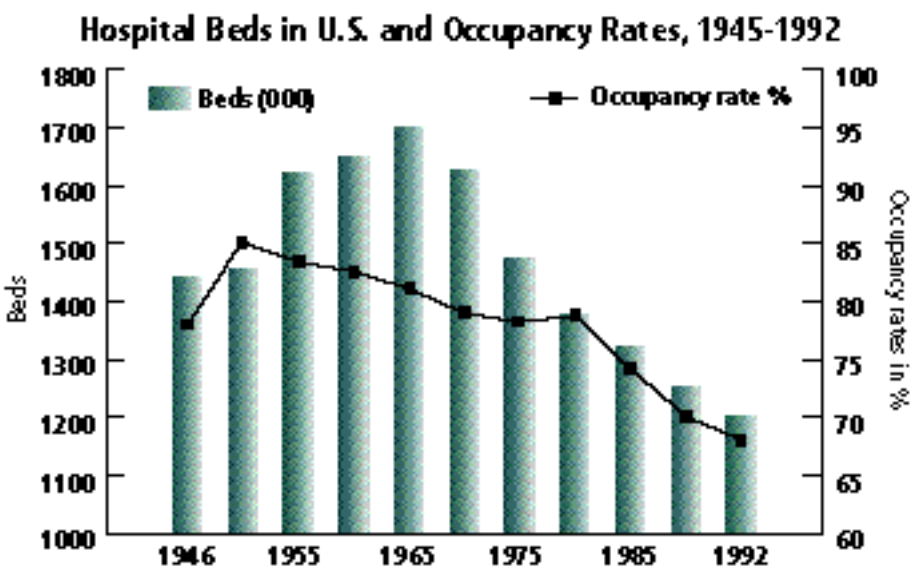


TABLE 7

Source: Sachs Group Inc., Hospitals and Health Care Networks, *10 (5), 1994, p 34.*

TABLE 8

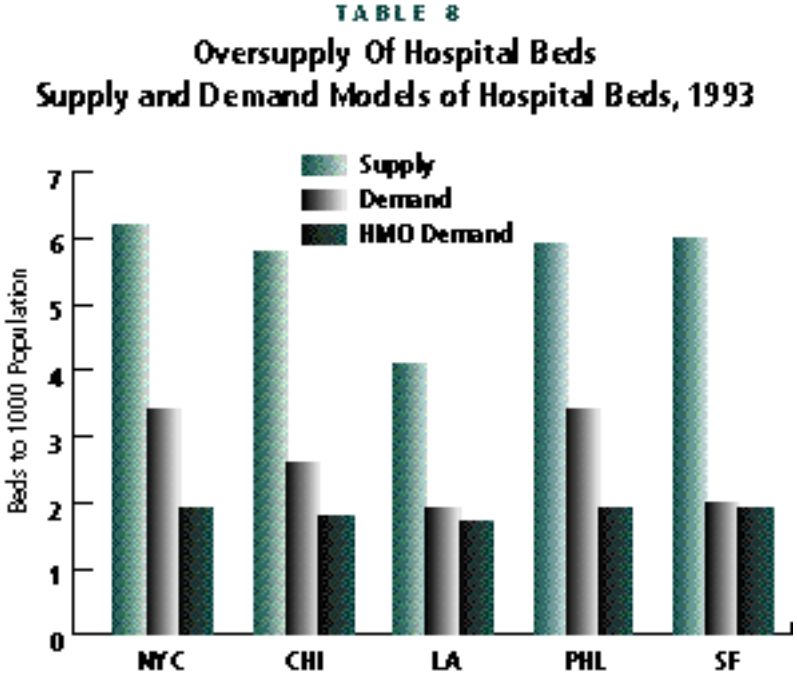
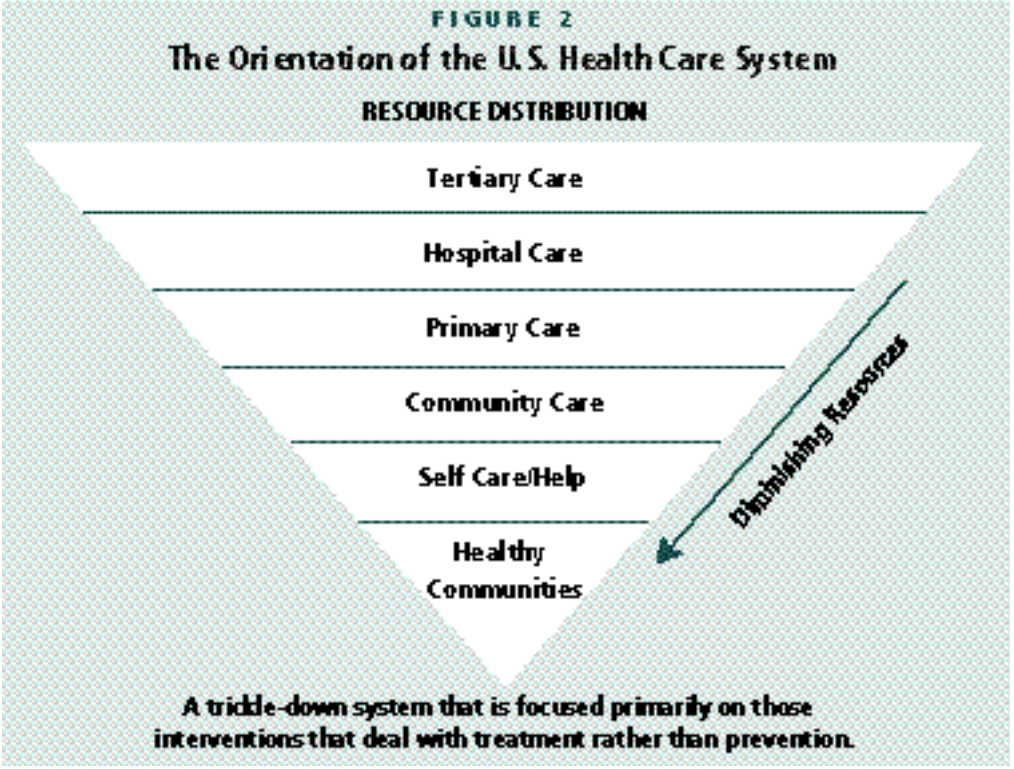


TABLE 8

Source: Sachs Group Inc., Hospitals and Health Care Networks, *10 (5), 1994, p 34.*



settings. For most of the post-war era, however, this centralization stopped at the level of the independent community hospital. Without coordination or integration, these multiple centralized resources created more competition among hospitals which, in turn, led to the expansion of services and more duplication of beds, technology and staff. **Table 7** charts the expansion of hospital beds and the decline in the use of that resource.

Feeding on an unlimited amount of public and private resources dedicated to health care, hospitals and other health care organizations have grown well beyond the needs of the current health care system and vastly beyond the needs of the system that is now emerging, which will use these resources far more judiciously. **Table 8** presents the current supply of hospital beds in five large cities, contrasts that with the current demand, and relates both to a projected demand of a system with 100% enrollment in managed care.

ORIENTATION

The unlimited availability of resources has shaped and influenced how Americans define health, relate to their own well-being, and use the system. The system of care that has emerged in the U.S. is focused primarily on those interventions that deal with treatment rather than prevention. This has led to relatively small investments in broad public health strategies that promote healthy communities and individuals. **Figure 2** represents this trickle down approach to health care, with the principal focus on tertiary care. Few resources reach the base that supports so much of health. This schism between public health and private health begins in education and continues through the organization of systems of care and health, the mechanisms for allocating resources to health, the structures of accountability and the work of professional communities.[vi,vii]

This graphic also points to other values prevalent in U.S. health care. The system has a **bias toward treatment rather than prevention, education, or management.** Even when the latter strategies are used, they are deployed with far fewer resources than are available to treat in the tertiary care setting. This orientation also lends itself more to acute care

needs of the patient rather than chronic care needs, unless they have become manifest through some acute incident. Finally, because of the system's reimbursement schedule, the professional ethics for providers, and other mitigating factors, the system is orientated to serving individuals and their immediate treatment needs and not to recognizing disease and disability as products of multiple influences: psychological, social, behavioral, economic and political.

In summary, the American health care system, without the benefit of a capacity for self-correction, has grown to the point where it endangers public and private spending on other essential activities. In the face of this unsustainable growth a frightening reality confronts the American public: **40 to 45 million people remain unserved by the existing insurance system, even though the largest cohort in the nation's history, the Baby Boom generation, does not turn 60 until 2006.** When this cohort reaches retirement, it will place even more strain on a system which is failing today.

During 1993 the nation engaged in a great national debate on these issues and the future of the health care system. The failure to act was, in part, born out of:

- anxiety of the general public about introducing any form of change in health care that often seemed to serve individuals well
- a desire to maintain the status quo by those who now benefit from the trillion-dollar health care industry
- the lack of an alternative that the public believed would be superior to the private markets that surround health care.

The private markets have been at work for over a decade slowly changing the health care resources into a market-responsive system. With the demise of political solutions, these changes and their methods have taken on a new urgency and power that now outstrips even the most aggressive proposal for change discussed in 1993. These market pressures will create a dynamic that is tremendously effective in bringing discipline to the system, but it is likely to do so in an uneven fashion, with little, if any, concern for its effect on the general public's health.

The key for the nation over the next decade will be to identify and use forces, including those of the marketplace, to change health care in a way that serves the public's interest.

The Emerging System of Limits

In all of the industrialized democracies, there are mechanisms for controlling the costs of health care. The British deliver their care through the public sector. The Canadians maintain private practice and community hospitals but cap expenditures at the level of the provinces. One of the failings of the U.S. system is that while it has generated many astounding innovations in technology, patient care, and research, it has done so without significant capacity to formally rationalize the resources. In fact, **the U.S. is the only industrialized nation that does not have some means of controlling health care costs.** Rather than make difficult decisions about what to limit or what is the best practice or how the resources might be used to the greatest benefit of the population, the total expenses for this wonderful system have been passed along to the public. Now there is a growing demand from both private and public purchasers of health care for a greater accountability from those who deliver these services. These calls for **accountability** are now focused on costs of care, but increasingly will attend to issues of consumer satisfaction

and overall quality of care.

The responses to these demands within the system fall generally under the rubric of "managed care," but this phrase covers a great variety of forms and structures. These experiments range from the heavy-handed efforts to limit access and lower practitioner fees to those that change the process and systems of care and the motivations, skills, incentives and involvement of practitioners in a way that not only reduces the cost to provide health care but increases the satisfaction of the patient and improves the quality of clinical outcomes. This approach to health care is just emerging and remains experimental as managers, clinicians and institutional leaders attempt to re-design the system of care from within.

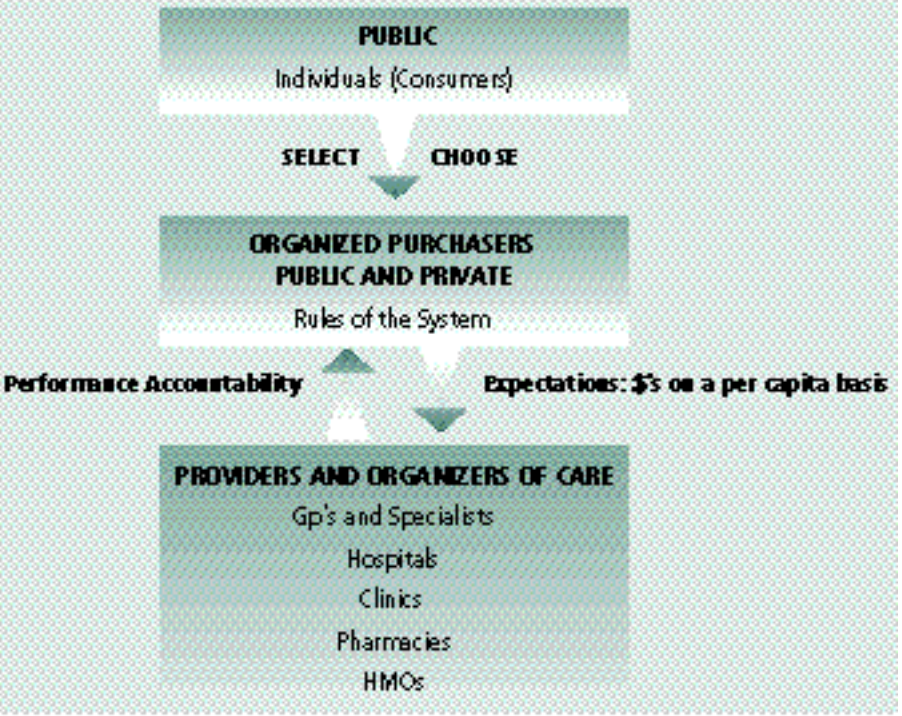
In a distinctively American fashion, the country is facing its need to limit the costs of care and improve its quality by turning to the familiar mechanism of market competition.

The system that is emerging will begin to resemble the dynamics, presented in **Figure 3,** with dramatic changes in patterns of finance and organization, but the most important changes will come in **patterns of accountability.** Providers, both health professionals and organizations, are now being restructured into large systems of integrated care. These systems will increasingly be held accountable for economic and quality performance by the organized purchasing cooperatives that are emerging in most states. With little, if any, capacity to pass along increasing costs to these payers, the systems of care are finding it increasingly in their interests to restructure or re-design the ways in which care is organized and delivered.

Such a **market-driven reform** of health care will not make all decisions based on serving the public's interest. Markets work to rationalize the use of a resource to produce a

FIGURE 3

Health Care System in the U.S. (circa 2000)



product or service which, in turn, provides a profit to those who successfully master the new process. For instance, **a market-driven health care system will not concern itself with the uninsured.** But critics of the market appear naive when they accuse such a system of not doing something it was never intended to do. If the American public wants a health care system that is both efficient and responsive to public needs and demands, it will have to look to public discussion and legislation, particularly at the state level, to shape and direct the workings of the health care market place, just as such public policies direct other economic activity.

Emerging Markets in Health Care: The New Structures and Financing

There are three markets emerging in the health care sector.
The first market is derived from the needs of the large purchasers of health care in the public and private sectors to limit their costs and improve the quality of the health care they buy. In the public sector this is best typified by the large, state-based systems that are purchasing care for public employees. Matching these public combines are private sector coalitions with large corporate and business members that pool their purchasing to create more market power. In over 20 states, legislation has created small business and individual **purchasing cooperatives,** permitting this part of society to participate in these cooperative arrangements. In all three arrangements the desire is to gain leverage on the health care system by combining and disciplining the purchasing power of the consumer to reduce costs and improve the quality of outcomes.

The second new health care market is far more visible than the first. With the creation of a combined market, new systems of health care providers are emerging to meet the challenges of lowering costs and improving services. There is no single formulation that describes these consolidations, but all follow the **pattern of linking primary, specialty, and hospital care with an approach** to the organization and management of care. Their aims are to: 1) reduce the excess capacity of the system, 2) integrate the components of health care production, 3) re-deploy health care resources, and 4) meet the demands of the purchasing cooperatives through these new arrangements to lower costs and improve quality.

Because of the magnitude of the health care business, the systems that successfully deliver on these goals are positioning themselves to make considerable profits for their efforts. As systems lower the costs of delivering care and do so in a manner that maintains their attractiveness to the public, they stand to make a sizable return on the difference between what they charge for care and what it actually costs them to deliver that care. Obviously, it will be in the interests of the purchasing cooperatives to keep the gap between cost and price as narrow as possible.

The third market is created by the shadow effect of these first two. In many areas where large health insurance purchasing cooperatives have not emerged and there has been little movement toward creating integrated systems of managed care, there is nonetheless activity aimed toward **consolidating health care resources into more integrated systems.** By and large this activity is not being driven by local demand for a more cost-effective or responsive health care system, but by the anxiety of provider groups and organizations that if they do not move quickly toward some different form of organization and finance they will lose their current position to outside competitors.

Emerging Context of Health

The new care system is just emerging, but it is possible to discern many of its basic elements. The future system will not replace the existing system entirely but will balance the current system of care with new values, institutions, patterns of practice and policies.

The first balance will be in the orientation of care. The emerging system of care will be built around primary care, because it is less expensive, more comprehensive and of a higher quality.[viii,ix,x] Specialist physicians will continue to play a role in this system, but it will be one redefined and much more constrained than the one specialists play today. The delivery of primary care will not be dominated as it is today by physicians. There is growing evidence that nurse practitioners, nurse midwives and primary care physician assistants deliver care that is high quality and responsive to patient needs for access and consumer satisfaction.[xi] Finally, **the emerging system will depend less on individual practitioners for primary care and more on the resources of a primary care team,** which, with its multi-capacity skills and competencies, can better serve the health care needs of the individual and the management concerns of the accountable system of care.

The location in which care is received will also shift. For much of the past fifty years the hospital has represented the logical place to provide the majority of care. It is and will increasingly be recognized as the most expensive part of the care delivery continuum, and gatekeeping providers will resort to hospitalization when all other ways of delivering care have been exhausted. The emphasis for the emerging paradigm of health will be on ambulatory settings with growing attention to care that is delivered outside any institutional setting, taking place **in the community and home settings.** Further evolution will see more emphasis placed on programs of self-care and self-help. Hospitals will remain important, but they will change and their historic organizational form will not dominate the system as they have over the past fifty years.

The orientation of the health care system will also shift. The focus of the existing care system on treating the acute care needs of individuals has proven very expensive, because it waits to act until the needs of the patient are most extreme. Public health advocates have long known that a predominance of such "downstream" expenditures for health are not in the interest of society or the individual. But until now there was no organization, outside of public health institutions, with a vested interest in health promotion and disease prevention. As enrollments stabilize, health plans will be accountable not only for their own financial performance, but for their acceptance in the market. They will be motivated by sheer self-interest to begin to **push the orientation of the health system away from treatment and care toward more education, prevention, and management.** Obviously, treatment will still be a part of the health care system, but it will now be better balanced with investments in prevention.

This need will lead the emerging system to broaden the bio-medical scientific perspective that has so dominated medicine and health care in this century to include the psycho-social-behavioral sciences as well. These sciences and the applied disciplines that flow from them offer the keys to understanding individual and social responsibility for health, effective interventions to enhance the health of the public, and optimal public and private investment in health care.

All of this means that the emerging system will increasingly value a population orientation while it maintains its commitments to individual care. Initially reform will come about because the immediate economic interest of the integrated plans of care will encour-

age changes which will both save money and improve the overall quality of care. In order to reap the full benefit of such a population orientation, however, there must be thoughtful public conversation and policies to shape and direct the market-driven system.

This dialogue and these policies should deal with:

- providing information to consumers
- ensuring genuine market competition
- protecting the public from predatory health care organizations
- ensuring a health insurance benefit to every member of society
- assisting these emerging markets in understanding the changes that they are bringing about.

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III. The Dynamics of the Current System of Education and Professional Practice

The Commission recognizes both the enormous power and potential dislocation of a health care system driven by market forces. One outcome of such a system will be the rapid downward pressure on cost now evident in many areas of the country that have relatively mature managed care systems. For the past few years delivery systems and health plans have been competing with one another through their ability to reduce costs by limiting access and reducing provider fees. Some are now moving into a period in which they will reduce excess capacity by closing unnecessary hospital beds and pushing unneeded health professionals out of systems of care. When these economies have been fully realized, the plans and providers will have little room to give on price and will face the difficult work of actually rearranging the ways in which health care is delivered in order to produce savings, quality improvements and enhancements in patient satisfaction, all of which will contribute to competitiveness and the long-term likelihood of survival.

At this point the knowledge, skills, competencies, values, flexibility, commitment and morale of the health professional workforce serving the systems of care will become the most important factors contributing to the success or failure of the system.

The education, training, certification, oversight and governance of health professionals in the U.S. is a large and complex set of arrangements that has emerged over the past century. These arrangements reflect a host of concerns and values including:

- professional autonomy
- the role of science in the health professions
- the relationship between compensation and independent practice
- the private nature of most of the health care system
- the health professions' relationship to higher education
- a minimalist attitude toward oversight by state and federal agencies
- the economic interests of the professions
- the importance of protecting the public's health from ill-prepared or incompetent professionals.

The system that has emerged is dominated by the influence of the professions in the design of education, the accreditation of professional schools, the criteria for professional practice, the definition of the scope of practice and the appropriate oversight systems for profes-

The Dynamics of the Current System of Education and Professional Practice

sional practice. For the most part, medicine has led the way in the creation of such structures, but this pattern has been replicated by virtually every other health professional group.

The **emergence of professionalism in the health professions** at the end of the 19th century in America paralleled many other important cultural, scientific and social transformations. Dominant throughout the last two decades of the 1800's and the first two decades of this century was the Progressive movement that aimed at applying the principles and techniques of scientific rationality and technical control to a host of social, political and economic problems.[i] The emergence of the professions in their modern form occurred as a part of this movement[ii] and was aided by the efficacy of the biological empiricism and its attention to natural systems that emerged from Germany during the mid-nineteenth century. Not only were these approaches dominating continental medicine, but they were increasingly becoming the model for American physicians as they pursued education and models for practice.[iii]

Similar changes were also occurring in **American higher education.** The German research university became the dominant model upon which colleges and universities were organizing themselves. The authority of empirically based physical and social sciences led to the division of academic labor through the emergence of the scholarly disciplines throughout the 1880's and 1890's.[iv] Finally, the emergent university became the center of a new commitment to research that combined the American taste for the practical application of knowledge to common problems with the experimental and systematic brand of investigation that was emerging from Germany.[v] From progressivism to empiricism and from the efficacy of the profession to the revered status of the university, the health professions could not have had better nineteenth-century parenthood for becoming a dominant part of the American culture in the twentieth century.

Arrayed in the face of this complex and important set of traditions and relationships is the reality of a very dynamic health care market in America. Emerging as a defining power in health care over the past five years, the market promises to realign much of what Americans have come to regard as given in the way in which they receive care, who delivers that care, where the care is given, what is included in the definition of care, the limits of individual responsibility, and the responsibility of private and public organizations to ensure access, efficacy and safety of the care that is delivered. The general directions of these reforms are identifiable (see page 1). While there are desirable attributes that market-based reform will bring to health care, such as greater efficiency, more effective decision-making, and better evaluation, there will undoubtedly be downsides. **Holding the market-based reforms accountable in such a way as to address these concerns must be a part of state and federal policy.**

The difficulty of changing the established patterns of professional education and practice should not be underestimated. Though strong forces encourage change, there is nonetheless a complex system of public and private interest, professional and governmental polices and institutional independence characteristic of the entire system. Much of this operates at odds with other parts of the system. For instance, while there is little doubt that medical specialties are in oversupply, the government still subsidizes graduate medical education with over $6.5 billion annually, most of which goes to train more specialists. To address the changes in health in a responsive manner will require the bold action of leaders in all sectors of the system.

Bold action is not something that has typified the governance of the professions or, for that matter, higher education. Like so much else in today's health care system,

this attitude must change. Fundamental alterations in the processes that govern professional education, regulate the professions, orient professions to practice and finance education will be required. This will mean action at the federal, state, institutional and professional levels.

Four education and workforce issues of particular importance

The first is changing the processes by which health care is delivered or, as it is more commonly referred to, "re-designing the health care workforce," in order to make delivery systems more responsive to the demands of cost, patient satisfaction and quality.[vi,vii,viii] Correspondingly, this has and will create demand for re-regulating the workforce by removing or updating the laws that govern entry into, define the scope of practice of and provide quality oversight to health professional practice.[ix] The changes in health workforce design and the general oversupply of many types of health care workers are producing pressure to decrease the size of the employed professional workforce in many key areas, especially medicine and nursing. This slackening demand will lead to downward pressure on health care wages. Finally, there is a growing recognition that competitive provider organizations must have a workforce that has a different set of skills than those that prevail today. Attention to these issues is critical to making the health professions responsive to public needs.

ISSUE 1: Re-designing the health care workforce

The characteristics and qualities of all health professionals have reflected the needs of the health system as it developed in this century. The new needs of the emerging system now must be balanced with these older values. Specifically, education must place more emphasis on producing providers with the qualities of superb generalists, able to practice in community- and ambulatory-based settings, able to bring a "systems approach" to the way health care is organized and delivered, and able to work within collaborative practice models.

Professional training and practice should place more emphasis on developing the qualities of a superb generalist, capable of comprehensive management of care, as opposed to the current orientation toward specialization. Specialization will continue to be important, but in the future specialization will be built upon preparation for generalist careers. This commitment to generalism must be a part of every health profession.

In a similar manner, the next generation of health professionals must be prepared to practice in community- and ambulatory-based settings. This will require that the dominance of the hospital as the training venue for most health professionals must end. While competence to work within a hospital must be a part of the generalist perspective, an orientation to the delivery of care in community and ambulatory settings and a commitment to care for communities must be characteristic of what it is to be a health professional. This must also inform the training of specialists.

Relevant health professional practice in the next century will include a capacity for altering the processes by which health is organized and delivered. Without such skills most health professionals will be left out of the critical decisions that must be made to guide and direct the health care system. In order to improve and manage the health of the public, such a systems approach and the accompanying improvement in knowledge and skills must find their way into the training and practice capacity of every type of health professional. Ultimately these insights must broaden the health professional's perspective to include not just those who present for care, but that portion of the population that

does not regularly seek consultation.

The practice environment can no longer afford the pattern of relationships between professions that have developed over this century. Various professions will share some of the tasks that are now reserved to the physician and the physician's role will change from dominating the clinical care delivery role to assisting it by managing, educating, and directing others. This system will redefine its needs in new ways and create new health professionals to meet these needs. Because of the increasing complexity that will come as the system moves from a treatment and cure modality to one that balances a much broader population perspective, it will of necessity create and deploy models of collaborative practice.

ISSUE 2: Re-regulate the health education and practice environment

The reform of health professional education must be accompanied with reform in the process of regulating health professionals for practice. State-based and professions-driven regulations tend to increase costs, restrict managerial and professional flexibility, limit access to care, and have equivocal relationships to quality. Perhaps most seriously, regulatory bodies are largely unaccountable to the public they serve.

To meet the needs of a changing health care system, health professional regulations should be **standardized** where appropriate, **accountable** to the public, **flexible** to support optimal access to a competent workforce and **effective and efficient** in protecting and promoting the public's health, safety and welfare.

One of the biggest barriers to effective and fair use of health professionals in the United States is the lack of uniformity across state lines. Standardized in neither form nor substance, the variations in language, laws and regulations are more than confusing. They inhibit access by consumers to health practitioners, unfairly restrict practitioners and prohibit the use of emerging health technologies across state lines. States should begin by adopting common terms in their licensing and regulatory language. More importantly, states have failed so far to **standardize entry-to-practice requirements for licensed health professionals.** Increased interstate activity, globalization of the economy, and phenomenal growth in telemedicine and high technology care—all of which transcend land-based boundaries—will demand that the regulatory system adapt to a new world of health care delivery. While private professional groups have slowly been moving towards uniformity by writing national exams and model practice acts, state legislators and regulators lag far behind.

The regulatory system's lack of **accountability** is evident on several fronts. Health professions regulatory boards are typically composed of members of single professions. Only recently have "public" members been allowed to sit on boards, and experience indicates that those members must be trained and supported to be effective. Rarely, if ever, do members of one profession sit on the boards of the other professions, despite the obvious need for interdisciplinary exchange of information and innovations for the developing care systems that use teams of health providers to deliver care.

Accountability questions arise in the areas of **complaint and discipline,** as well, where consumers are rarely notified of the status of their complaint, and the public generally cannot access information about disciplinary actions taken by the boards against health professionals. In an era when consumers are expected to choose health providers from limited lists from managed care organizations, the need for full information disclosure about health care providers is greater than ever.

Perhaps the most troublesome regulatory barrier to accessible, cost-effective, and high-quality care is the **inflexible scope of practice regulations.** Scopes of practice, typically found in state codes, define what a particular profession may do. For the last hundred years, a few professions have held broad, near-exclusive scopes of practice, while

other professions have been granted "carved out" or delegated portions of the scope. Current practice acts do not readily recognize the possibility **of overlapping scopes of practice based on demonstrated competency.** While the past several years have seen tremendous expansion of scopes of practice for some practitioners, these advances have been hard won and continue to be fought every day at great expense because of the "turf battles" that arise when one profession attempts to expand its scope of practice. The need for accessible health care calls for flexible scopes of practice which recognize that different types of competent practitioners may provide the same health services.

The requirements of our century-old regulatory system bring into question whether they effectively and efficiently protect the public from harm.
For example, current regulatory systems do not demand any demonstration of continued competency. Continuing education requirements, however laudable, do not demand demonstration that a licensed professional is still competent to perform everything in his or her scope of practice anytime after initial licensing. Additionally, the complaint process is difficult to initiate for the consumer, and many complaints go without investigation or adequate discipline. Finally, regulatory systems have largely **failed to implement mechanisms to evaluate their own effectiveness and correct shortcomings.** These problems call for effective continuing competence assessments and professional discipline processes and a broad evaluation of the effectiveness of regulations in protecting the public.

ISSUE 3: Right-size the professions
Along with many other dimensions of the health care system such as hospital beds and health care technology, the educational capacity for health professional training and the stock of available health professionals has been oversupplied and in many places must now be downsized or rightsized to match the needs of the emerging health system. To do this the various policy bodies at the federal, state, professional and institutional levels must be willing to adopt a few guiding principles:
1. The subsidy for education that is tied to care delivery must be broken
2. The training opportunities that are subsidized in this country for foreign nationals must be restructured
3. Unneeded health professional schools and training programs must be closed
4. Policy makers, particularly at the federal and state levels, must allow professional input into the downsizing process to ensure the maintenance of centers of excellence.

For most of the past thirty years the needs of the educational system were generally compatible with the need to provide federal support for indigent or medically underserved care. This is no longer the case, and the subsidy for education that is tied to care delivery must be broken. Public subsidies for education must relate directly to the workforce needs of the country. If they can meet health care needs in the process, all the better, but the system that has grown up with education and service tightly tied together is largely responsible for producing the perverse polices that guide the system today.

In the inevitable downsizing of many of the health professions the nation must ensure that it protects the opportunity for citizens to have access to the pathways to become health professionals. To do this will mean restructuring the training opportunities that are subsidized in this country for foreign nationals. The nation no longer needs nor can afford the cost of such a program. When foreign nationals are trained in this country the immigration laws must ensure that they return to their native land when their study is complete. Further, we should explore "export options" to help share our excess health professional capacity with the areas of the world in greater need.

The Dynamics of the Current System of Education and Professional Practice

As the health professional schools and training programs face the inevitable realization that the size of many of the professions must be reduced, their first impulse will be to reduce the size of the health professional class by a small percentage at every institution, rather than to close entire schools and colleges. This will prove an ineffective response to the needs of society and will only render the over-built educational institutions less efficient across the board. Policy makers in state capitals and on institutional boards should fight against such proposals and lead the way to closing entire schools and training programs, not lowering class size. Such moves are the political equivalents of moving graveyards or closing military bases, but they are what is best for the nation.

These reductions in professional training capacity are a part of the market-driven reform that is rationalizing the rest of the health system. As such, the reductions in education may be indifferent to the overall quality of the educational programs and schools that are closed. To address this danger, policy makers, particularly at the federal and state levels, must create ways for professional input into the process to ensure the maintenance of centers of excellence. It is vital that the barriers to participation by professionals in this process be removed (particularly those raised by restraint of trade concerns by Federal Trade Commission) and new pathways in which professionals can participate be created.

ISSUE 4: Re-structure education

The education of health professionals will not be immune from the dramatic changes in the health care workplace. Just as the system of care is being radically altered by a new structure of accountability, educational institutions must anticipate that the same dynamic will impact the ways in which they are structured and operate.[x] Much of this shift will be characterized as a movement away from control by the professions themselves through the processes of licensure and accreditation. Such a system has been dominated by the types of health professionals with the skills that the professional schools wanted to supply.

The new system will favor those institutions that can understand what is in demand by the emerging system and provide those types of workers and professionals in a timely and cost effective manner. Just as the health care system will be accountable for cost, consumer satisfaction and overall quality, these same standards will increasingly be demanded from educational programs. This will mean changes in the skills, competencies and knowledge base of all health professionals, the process by which education is regulated, the length of education, and the costs of education.

To respond to this challenge to become demand-oriented means that education must provide students with **knowledge, skills and competencies** necessary for effective practice in the type of health care system that is emerging. This will occur only with a stronger voice and more involvement from the institutions that deliver care in the educational, licensure and certification process. It will also require that the newly emerging care delivery organizations demonstrate a willingness to be more actively involved as direct participants in the educational processes.

The **accreditation processes,** whereby these skills and competencies are assured, should be informed by professional bodies, but they must include input from systems that deliver care and are controlled effectively by public governance structures. Traditional accreditation serves as an impediment, real or imagined, to changing education; and it has outlived its current social usefulness. It must be reinvented to serve the more pressing social need of making educational institutions truly responsive, or it must be simply discarded.

The **physical location of educational programs** to train health professionals is simply irrelevant outside of the demands of the competencies to be achieved. Educational pro-

grams must be moved to where they most effectively meet the needs of students and not the lifestyles of faculty. This movement must recognize the ways in which information and communication technology will continue to change our culture, particularly those parts of the culture that have to deal with how we transmit knowledge. Education should be carried out where it makes the most sense for the lessons to be learned, is most convenient for the student and where it is least expensive.

The **length of the educational process** for professional careers has slowly grown in all disciplines over the past half century, partly because there is more to learn. Most of the lengthening has occurred, however, because the professional education system is not tied to discrete sets of competencies expected of its students. In addition, there are no economic incentives for shortening the educational process and enormous status incentives for expanding the training period.

Education should also be a function of how long it takes to develop an appropriate level of competence. It is simply impossible for students to learn with the same level of thoroughness all of the knowledge that is available. Instead, they should learn basic competencies and be expected to continue to learn throughout professional life. They should be provided with an educational experience that leaves them always questioning and with the skills to answer the questions they will frame throughout the years of practice. In most other countries education for comparable levels of professional practice is far shorter than in the U.S. The current educational process is too expensive, too long, and not accountable to the needs of students and society.

All of this leads to the challenge to reduce the costs of education. It will become absolutely essential for the educational process to reduce costs at all points. For the educators, the challenge is to reduce time and tuition and make educational programs more convenient to those already employed. For the care system, this will mean working in partnership to train and educate health professionals who possess skills that are needed in the emerging health environment. For society, it means assessing the basic cost structure of what it takes to achieve these goals and then working continuously to deliver these goals more efficiently.

Every dimension of the U.S. health care economy must respond to this challenge; health professional schools are no longer exempt.

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IV. Challenges to the Health Professions

Although there are distinctive recommendations for certain health professional groups that the Commission feels compelled to advance, many of these challenges from the emerging system will impact all health professions in much the same manner. Let us begin with several dimensions of the health professional response that must be a part of every profession's education and competency for the system that is emerging.

All Health Professionals

RECOMMENDATIONS FOR ALL HEALTH PROFESSIONALS

A1. Scientific Base of Educational Programs: The demands on systems of care are growing. The scientific base of all health professions must grow to accommodate these changes. All health professional schools must enlarge the scientific base of their educational programs to include the psycho-social-behavioral sciences and the population and health management sciences, such as an evidence-based approach to clinical work.

A2. Team Training and Cross-Professional Education: Until recently, researchers had conducted marvelous experiments involving team training and cross-professional education. For the most part these experiments have stopped. They must be rekindled in light of the challenges now facing the professional community. There is no justification for the artificial separation of professionals in training. While legitimate areas of specialized study should remain the domain of individual professional training programs, key areas of preclinical and clinical training must be put together as a whole, across professional communities. This means more sharing of clinical training resources, more cross-teaching by professional faculties, more exploration of the various roles played by professionals and the active **modeling of effective team integration** in the delivery of efficient, high quality care.

A3. Intensively Managed and Integrated Settings: There is no getting around the reality that the next generation of health professionals must be prepared to practice in settings that are more intensively managed and integrated. This means many things, but a few merit highlighting. First, the clinician of the future must have the ability to use the sophisticated information and communications technology that is at the heart of the new systems of managing care. These information systems do and will have implications for the individual clinical interaction, the basis of understanding care within a system and the ability to aggregate a clinician's vision into a view of population care. The new systems will emphasize promoting health and preventing disease. Professionals in the future must have sharpened **skills in these areas ranging from clinical prevention, to health education, and to the effective use of political reforms to change the burden of disease.** The systems will also be more customer or consumer-focused. Many of the health professions have developed an ethic of equanimity that separates them from the patient. Some element of this professional role

must be maintained, but it must be balanced in a way that encourages the practitioner to actively engage his or her patient in the process of preventing or responding to a health problem. Focus on the relationships involved in health care will be paramount. Health professional leadership in these settings will require "literacy" in the means of re-designing health care that permits continual improvement: **removing cost while adding quality.** Finally, the managed care system will push professionals into new roles that ask them to strike an equitable balance between resources and needs. Such equations are likely to be carried out in each clinical encounter. This does not mean limiting needed care, but it does mean working to improve skills so that good managed care can in fact be high-quality care.

A4. Culturally Sensitive Care: A substantial body of literature concludes that culturally sensitive care is good care. This means two things for all health professional schools. First, they must continue their commitment to ensuring that the students they train represent the **rich ethnic diversity of our society.** Important investments and many successes have been achieved, but this is an obligation that must be continued at each institution until it is no longer an issue. Second, diversifying the entering class is not sufficient to ensure understanding and appreciation of diversity. Cultural sensitivity must be a part of the educational experience that touches the life of every student.

The first four recommendations focus on issues of the content of education. The fifth addresses the context for change.

A5. Context for Change: The challenges facing the health professional schools are enormous, and some schools will not survive. Remaining institutions must develop partnerships and alliances that have not been a part of education in the past. For fifty years academic health centers could afford to separate themselves from the organizations around them. Now they desperately need a rich set of collaborations to meet these enormous challenges. They need partnerships with managed care for training, clinical research, and tertiary care referrals; they need partnerships with computer and software companies to develop the information and communications systems; they need partnerships with integrated systems to support health services research; and they need partnerships with local and state government to help determine the best ways to meet the health needs of the public.

A6. Health Professions Regulatory System: Beyond educational issues and contexts, all health professions must recognize that the current health professions regulatory system needs to change. Health professionals must work with state legislators and regulators to ensure that regulation is standardized where appropriate; accountable to the public; flexible to support optimal access to a competent workforce; and effective and efficient in protecting and promoting the public's health, safety and welfare.

2. Allied Health

WORKFORCE: It has been estimated that approximately 60% of the 10.5 million members of the health care workforce are allied health workers.[i] A recent study by the Department of Health and Human Services termed **allied health as one of the fastest-growing occupational groups,** with a 44% growth rate from 1980-90, and a 144% growth rate from 1970-90.[ii]

Challenges to the Health Professions

EVOLVING ROLE: While allied health is an extremely important and large part of the health care delivery system, like other professions, it is currently under significant pressure to evolve.[iii] Policy makers are seeking a greater connection between the classroom and workplace and pressuring educational institutions to improve productivity and performance.[iv] Moreover, in the market-driven delivery system, clinical work is moving to the least costly practitioner and current scopes of practice are "blurring," melding into new hybrid forms. Administrators are frustrated by single-skilled practitioners whose over-specialization results in under-utilization and cost increases, while the effective use of multi-skilled allied health care practitioners has been well established over the past decade.[v]

FOUNDATION AND COMPETENCY: The increasing demand for allied health practitioners will evolve concomitantly with demands for transformations in the expectations, roles and responsibilities for entire disciplines and for individual practitioners.[vi] All allied health practitioners will be expected to have a strong foundation in the sciences, increased critical thinking and problem-solving skills, and excellent communication abilities. The emerging integrated delivery systems will expect practitioners to work competently in acute care, ambulatory, managed care and home health environments. Moreover, patient care in all environments will focus on primary care, prevention and health promotion for an increasingly diverse population.

INTERDISCIPLINARY TEAMS: The changing health care workplace will require allied practitioners to work in interdisciplinary teams, rely heavily on health and information technologies, and understand the management, legal and financial perspectives of care delivery. Allied health providers will be expected to attain new knowledge and skills, to take on multiple functions across disciplines and to function with fewer regulatory barriers.

MARKETPLACE DEMANDS: The learning of related knowledge and skills raises the larger issue of the emergence of new allied health professions which fall outside the often rigid boundaries of currently recognized disciplines. Restrictions imposed by accreditation, licensure and professionalism currently limit such evolution, but marketplace demands for multi-skilled workers, even those skilled within several discrete scopes of practice, may facilitate their emergence.[vii] Successfully meeting both market and public demands will require accommodating and participating in the emergence of new professions, achieved by the "clustering" of related existing skill sets and even disciplines.[viii] These "affinity clusters," based on a task analysis at the technician level, could lead to the development of new occupations, affinity cluster accreditation and affinity cluster curricula for assistants, technicians and perhaps even technologists.

SIGNIFICANT REFORMS: Proposals for change in allied health education and practice are not new. Over the past six years, two national reports have included recommendations for significant reform.[ix] Taken together, these recommendations have generally called for greater integration of disciplines, the design of new curricula, improved articulation between programs and improved minority representation. Accreditation has been challenged to accommodate institutional or multi-program assessments.

LINKAGES: In practice, greater role and credentialing flexibility has been recommended for improved utilization, and a broad study of all allied health clinical practice outcomes and effectiveness is essential. Faculty have been encouraged to strengthen linkages to practice and develop greater research competence. Finally, schools have been encouraged

to institutionalize partnerships with care delivery organizations and other stakeholders. **In 1995, the recommendations of the National Commission on Allied Health reiterated all recommendations made for allied health over the past six years.**[x] For the allied health professions to respond to these recommendations, some historical barriers must be overcome. Until now, allied health's ability to evolve in response to changing workforce demands has been hindered by three factors: 1) allied health's discipline-specific structure and sometimes limited knowledge of and interaction with other health care providers; 2) allied health providers generally are assigned inflexible roles in which they are underutilized; 3) as a whole, the field has been inadequately addressed by researchers and policy makers.

RECOMMENDATIONS FOR ALLIED HEALTH PROFESSIONALS:

B1. Mission and Organization: Restructure the mission and organization of allied health education programs to focus on **local community health needs** identified through partnerships with delivery systems, professional associations, educators, regulators, consumers, and the public.

B2. Curriculum: Focus allied health curriculum on **related discipline clusters, multiskilling and interdisciplinary core curricula.**

B3. Career Ladders: Improve student and professional articulation and career ladders **within disciplines and between professions.**

B4. Linkages: Improve education-practice linkages with **diverse care delivery environments,** such as managed care, home health care, and ambulatory care, for the benefit of both faculty and students.

B5. Diversity: Improve **recruitment** of minority, disabled and disadvantaged students and practitioners.

B6. Leadership: Improve **faculty leadership skills and competence** in clinical outcomes and effectiveness research.

B7. Network: Establish innovative **collaborations** among professional associations.

B8. Information: Improve the **collection, evaluation and dissemination** of data and innovations related to allied health education, training, practice, and regulation.

3. Dentistry

THE PROFESSION: During the past two years dental care and the practice of dentistry have been left out of the debate for health care reform and the movement to create integrated systems of care. There are several reasons for this. The organized dental profession argues that dentistry has maintained an outstanding record in cost containment, prevention, specialist/generalist ratios and active involvement in the community. By and large, the organized dental profession has wanted to be outside of the discussions, preferring to have dental care remain outside of the reforms that have buffeted the rest of health care. This has been possible because most of the integrated systems have yet to focus on dental care (it represents about 7% of health care expenditures). Much of dentistry is delivered outside of the traditional health insurance payment mechanism, and, as **Table 9** indicates, dentistry alone among the health professions will actually experience a decline in the ratio of professionals to population over the next two decades if current trends continue.

While medicine has moved dramatically into managed care arrangements, often

TABLE 9

Changing Environment

Dentists to 100,000 Population, 1970–2020

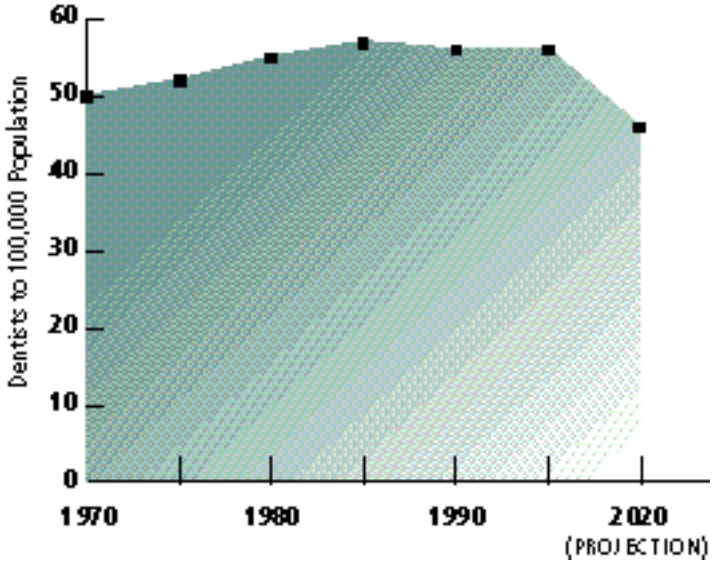

TABLE 9

Source: BHPr, Eighth Report to Congress, 1991.

involving the creation of integrated networks, group practice arrangements and the formal employment of physicians, the vast majority of dental care is still delivered by single dentists practicing in ambulatory settings.

UNDERSUPPLY: From one perspective dentistry may appear to be in an enviable position relative to the other professions. Left alone and with a declining number of professionals, it may be able to control the manner in which care is delivered far more effectively than will medicine or nursing. This will perhaps be true for the portion of the population that the profession is serving as the new century begins. But the more challenging problem facing the profession is **how it will serve the oral health care needs of the nation as its numbers decline and its practice modalities remain constant.** Given the oversupply of practitioners in several other professions, it seems shortsighted to recommend expanding the size of the entering dental class. Rather, the opportunity seems to lie with changing the manner in which dental care is organized and delivered. In this way dentistry might anticipate the inevitable pressure that it be delivered in a more effective and efficient way by using dental hygienists and assistants more expansively, by linking more directly with the rest of the health care system, and by creating more efficient practices. It seems unlikely that practitioners will make these changes without the pressure of being over-supplied or a strong push from managed care organizations. Without such a change, however, the profession may find itself losing control of the responsibility for oral health to other professions that are willing to make such accommodations.

CURRICULUM: A projected decline in the number of dentists provides an opportunity for dental schools to develop and model different ways to organize and deliver care. Such a commitment will necessitate the ability to educate students with a pattern of practice and professional expectations that include expanded knowledge based on the biomedical sciences, less mechanical/surgical repair and more care dependent upon an in-depth knowledge of chemistry, biology, microbiology, internal medicine and pharmacology.

Dental schools must **remain closely allied with medicine** in order to develop practitioners who are skilled in preventive and self-assessment techniques, dietary counseling, information management and risk assessment, clinical pharmacology, general medicine, physical diagnosis and diagnostic sciences. Technological and scientific advances, combined with changes in demographics, disease patterns and societal attitudes towards dental care are shaping a different future for the profession of dentistry that will continue well into the next century. New restorative materials, plus other technological advances, will permit the dentist to produce more services per unit of practice time, accomplish more sophisticated diagnostic and treatment planning alternatives, and provide a higher quality of care to an increasingly knowledgeable public.

RECOMMENDATIONS FOR DENTISTRY:

C1. Class size: Maintain the entering dental school **class size** at its 1993 level (4,001 students).

C2. Post-Graduate Training: Create the opportunity for a post-graduate year of training for all graduating general dentists. New opportunities should be developed in **private practice and managed care settings.**

C3. Post-Baccalaureate Training: Accomplish the **training** for a dental degree and the one year of post-graduate training in four years of post-baccalaureate training.

C4. Partnerships: Create **adequately funded** managed dental care partnerships between dental schools and their clinics and the emerging integrated health care system.

C5. Management: Change the clinical training of dentists to reflect a **broader orientation** to the efficient management of quality dental care.

C6. Cross Disciplines: Integrate dental education more thoroughly **with** that of the other health professions.

C7. Productivity: Increase the productivity of dentists through the efficient and effective use of **dental hygienists and dental assistants.**

C8. Education: Decrease the **tuition dependency** of dental schools, and subsequent student indebtedness, by developing efficiently managed dental school clinical models and the creation of endowments, scholarships and loan programs for students.

4. Medicine

OVERSUPPLY: American medicine will soon face a dislocation of crisis proportions. A growing body of scholarly studies and policy assessments point to an oversupply of physicians in the U.S.[xi, xii, xiii] Most of these projections are based on the assumption that the nation will continue its movement toward a more intensively managed and integrated system of care and that the demands for health care will grow moderately with the aging population and with the inclusion of populations with special needs into these systems of managed care.[xiv] What does not seem to have kept pace with these models is the use of non-physician providers to a greater extent than their current deployment. This development is likely to have a profound effect on the overall demand for physicians in the coming decade. There seems little reason to doubt the modest assumptions that have been used to generate the projections of a physician oversupply. Criticism of these models is made by questioning the Census Bureau's population projections, anticipating a growing need for physicians to manage new technologies and a limitation on non-physician participation.[xv] These assumptions seem unwise in the face of what we now know.

TABLE 10

Physician to Population Ratio, 1970–2020

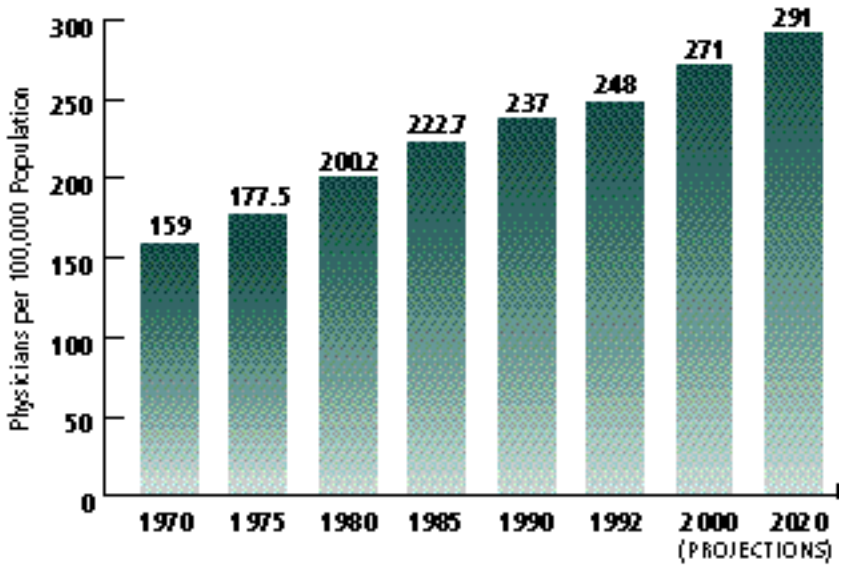

TABLE 10

Source: Health Personnel in the U.S., Eighth Report to Congress, 1991, DHHS Publication No. HR.S-P-OD-92-1. *Bureau of Health Professions (BHPr), Health Resources and Services Administration (HRSA), DHHS, September 1992.*

TABLE 11

Projected Physician Workforce Supply and Demand, 2020

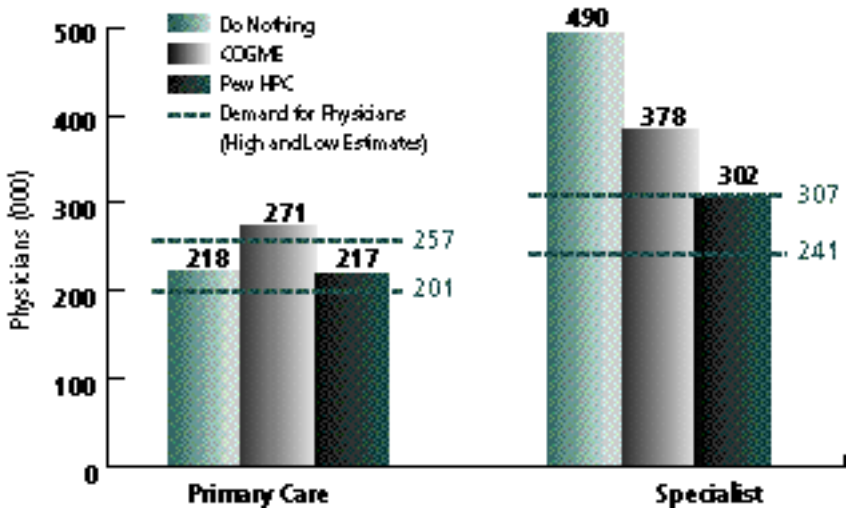

TABLE 11

ASSUMPTIONS: Reductions in numbers of medical students and residency positions made in the Year 2000. HMO staffing ratios adjusted upward to account for demographic changes, productivity differences, utilization patterns of the uninsured and Medicaid recipients, productivity differences, out-of-plan utilization (primary care: 16.5% = low, 45.5% = high; specialist: 22.5% = low, 51.5% = high).

Sources: Council on Graduate Medical Education, Fourth Report. *Bureau of Health Professions, Physician Supply Forecasting Model. Weiner J.* Assessing Current and Future U.S. Physician Requirements Based on HMO Staffing Ratios: A Synthesis of New Sources of Data and Forecasts for the Years 2000 to 2020, Technical Working Paper. *Rockville, MD: USDHHS, HRSA, Office of Research and Planning, January 27, 1995.*

TABLE 12

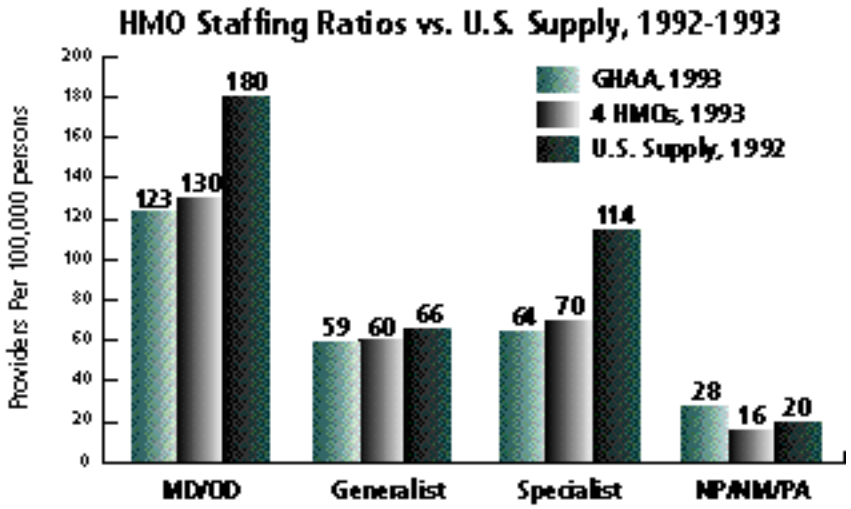

TABLE 12

MD/OD — Medical Doctor/Doctor of Osteopathy
Generalist — family/general practitioners, general internists, general pediatricians
Specialist — all other medical and surgical specialties
NP/NM/PA — Nurse Practitioner/Nurse Midwife/Physician Assistant

Source: Weiner J. Assessing Current and Future U.S. Physician Requirements Based on HMO Staffing Ratios: A Synthesis of New Sources of Data and Forecasts for the Years 2000 to 2020, Technical Working Paper. *Rockville, MD: USDHHS, HRSA, Office of Research and Planning, January 27, 1995.*

Tables 10-11 present this situation in graphic form. **Table 10** charts the rapid increase of all physicians, including those in academic and research positions, per 100,000 population over the past 25 years with projections for the next two decades. **Table 11** is a representation of projections of supply and demand for patient care physician supply in the Year 2020. The table presents three scenarios for physician supply: 1) doing nothing about the size of physician production; 2) COGME's recommendations (reduce IMG positions to 10% of U.S. medical school graduates and set a 50/50 ratio of primary care to specialty residency positions); and 3) the Pew Health Professions Commission's recommendations (COGME plus 20% reduction in U.S. medical graduates). High and low estimates of demand for patient care physicians represent HMO staffing ratios adjusted upward to take into account realistic assumptions about demographic changes, productivity differences, and utilization patterns. This table demonstrates an oversupply of physicians in general, specialists in particular, and a significant shortfall in primary care providers in some scenarios.

These projections are consistent with current data on physician supply and HMO staffing patterns. **Table 12** presents 1992 and 1993 provider to population ratios derived from two studies of HMO's and U.S. Bureau of Health Professions estimates of the total number of physicians in the United States. The table indicates that HMO's use significantly fewer physicians per 100,000 enrolled than the available supply. Utilization of mid-level practitioners (nurse midwives, nurse practitioners, and physician assistants) varies significantly among HMO's, suggesting that demand for mid-level practitioners could rise appreciably if all HMO's adopt the staffing patterns of those that currently utilize mid-level practitioners most extensively.

TRAINING: The reason for the oversupply of physicians is relatively easy to understand. First the number of medical students in training in the U.S. grew by 66% between 1970

TABLE 13

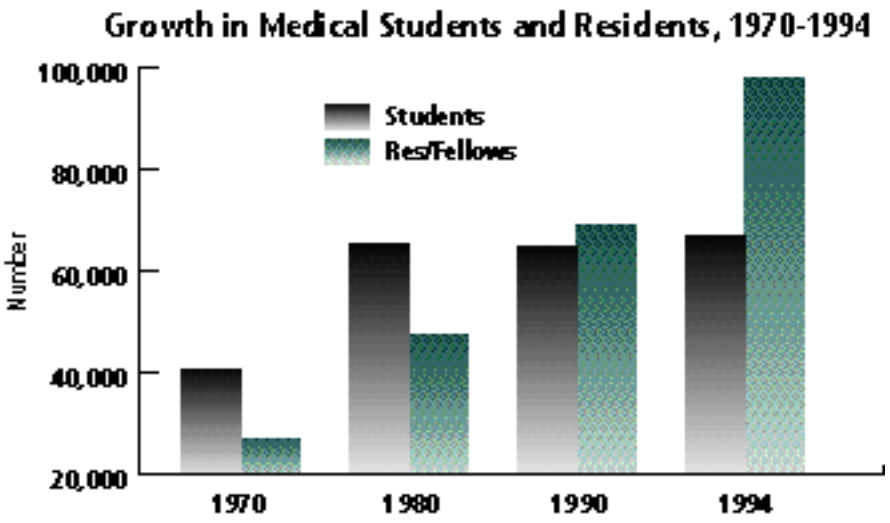

TABLE 13

Source: Journal of the American Medical Association, Educational Supplements, 1970, 1980, 1990, 1994.

and 1994. Even more spectacular was the 259% growth in the number of residents and fellows during the same time period.[xvi] U.S. population grew by about 21% over the same 25-year period.[xvii] **Table 13** charts these changes. Either the U.S. was severely under-doctored in 1970 or it is currently oversupplied.

MANAGED CARE: At the same time there has been a fundamental shift in the ways in which physicians are incorporated into the system. The traditional fee-for-service insurance system in the U.S. permitted virtually any physician with a license to accept a patient and to control both the number and kind of services offered as well as the price charged for the services. Increasingly, managed care plans are carefully scrutinizing all of the inputs to the system, including physician services, to produce health care. This has restricted the employment of physicians and limited both price and procedures carried out. This rationalization of health care will continue over the next decade.

The nation's health will not be served by such a dramatic oversupply in the physician workforce. Addressing this issue requires action on three fronts. First, the number of residency training positions must be reduced to a level of no more than what is now necessary in well-established, stable managed care plans. This would equal between 19,000 and 20,000 beginning graduate training slots per year for allopathy and osteopathy. Given that there are 24,000 current beginning training positions, such a policy would reduce the number of training positions by 5,000 to 4,000. Second, as medical provider jobs and beginning training slots dwindle, it will be essential to give preference for these prestigious and lucrative positions to American citizens. Certainly the U.S. should remain open to training foreign nationals, but the nation's immigration laws must be tightened to ensure that those who seek training here return to their native countries for practice unless their skills are needed here. Currently 75% of these graduates remain in the U.S. to practice. Nonetheless, these steps will not be enough to address the growing oversupply of physicians, which will come about by the confluence of too large a production system and an increasingly efficient managed care delivery system that is already decreasing the demand for physicians.[xviii]

These policies will produce a physician-to-population ratio of 240 to 100,000, 11% below

the current projections for 2020 and equal to the current (1990) physician-to-population ratio.[xix] These supply figures must be set against the logical levels of need for physicians in an intensively integrated and managed system of care. A recent analysis of that need projected a high and low model for physician need in 2020 at between 138 and 176 physicians per 100,000 population.[xx] Policy makers and physicians alike should be alarmed by such a discrepancy between current best-practice use patterns and the projected supply of physicians.

Because of this, the Commission is led to its final and most dramatic recommendation. The oversupply of physicians is so significant that the number of positions for medical training must be reduced. The Commission recommends that coincident with the reduction in residency programs, the number of first-year medical school positions be reduced by 20-25% over the next ten years. The number of graduate training positions should fall until this number reaches the number which is calculated on the basis of the needs now known necessary in well-established, stable managed care plans. These reductions should come about as much as possible by the wholesale closing of schools, not the less painful, but far more inefficient reductions in class size. The Commission recognizes that medical education programs are not evenly distributed across the country. Some regions could rightfully claim to have an undersupply of positions for their population. But clearly there are many areas, particularly on the East Coast, that are net exporters of medical school graduates.[xxi] No medical school will make a decision to close on its on accord. These recommendations are directed to the state legislators and university board members who must face this issue.

HISTORICAL EFFORTS: While the issues surrounding the size of the physician workforce are provocative, they are only part of the story. Over the past decade medical education has carried out modest efforts to reform its educational program. However, it remains, with a few notable exceptions, a training experience that is focused more or less exclusively on a biomedical model of illness and disease, taught in hospitals, oriented to the treatment of acute disease or the acute manifestations of chronic disability to students who have little, if any, understanding of how care is delivered in the health care system. The basic skills, experiences and competencies of the vast majority of graduates from medical schools and residency training programs have increasingly less relevance to the needs of patients, the way health care is organized and delivered, or the principles of improving the health status and well-being of the public. The transformation of medical education must reach beyond questions of scale to a reexamination of its role with regard to the society it serves. **This may even lead to the development of entirely new specialties in such fields as ethics, evaluation sciences and health care work design.**

The cost of this medical education and training enterprise is $21 billion annually. Most of the discussion regarding financing of medical education has focused on how to generate the revenue to cover these costs. The critical issue is how might we create competent general physicians for a minimum investment of public and private dollars. Increasingly the cost of maintaining such a system is covered by student indebtedness. There must be a way to create physicians with less institutional and financial drag.

Institutional budgets are not the only expenditures in need of examination. Physician assistants prepare for their roles as general health care providers in four years post-high school; nurse practitioners in six. The current minimum for a general physician is eleven years. There must be evidence that the value added by this lengthy period of training is worth the personal or public investment. The majority of medical training programs should focus on creating a solid training program for general physicians. Other resources should be

allocated to create a structured ladder of life-long professional training that would support training for additional specialization, continued competence, and career transition.

Finally, much of the dilemma facing medical education today is owed to having a single-minded orientation toward the biomedical model and specialty care for tertiary practice. But to react to the present dilemma by reinventing a medical education system based solely on primary care, ambulatory education, and a bio-psycho-social model would be extremely short-sighted. Rather, the response from the medical education community must involve a more balanced approach.

The system that emerges must define "excellence" in broader, more realistic terms. It should incorporate education in community-based settings, develop strong links with managed care and recognize that the successful physician of the future must be oriented to health, not just medicine.

RECOMMENDATIONS FOR MEDICINE

D1. Training Positions: Reduce the number of graduate medical training positions to the number of U.S. medical school graduates plus 10%.

D2. Education Programs: By 2005 decrease the **size** of the entering medical school class in the U.S. by 20-25%. This would mean a reduction from the 1995 class of 17,500 to an entering class size of 13,000 to 14,000 for 2005. **This reduction should come from closing medical schools, not reducing class size.**

D3. Immigration Law: Change immigration law to tighten the **visa process** for international medical graduates ensuring that they return to their native countries for service upon completion of training.

D4. Primary Care: Redirect graduate medical **training programs** (6,951 programs as of 1991) so that a minimum of 50% of them are in the primary care areas of family medicine, general internal medicine, and general pediatrics by the year 2000.

D5. Training Location: Move training of physicians at the undergraduate and graduate levels into **community, ambulatory and managed care-based settings** for a minimum of 25% of clinical experience.

D6. Education Funding: Create a **public-private payment pool** for funding health professions education that is tied to all insurance premiums and is designed to achieve policy goals serving the public's health.

D7. Service Role: Establish an enlarged **National Health Service Corps** to attract graduate physicians into service roles currently being met by the excessive number of residency positions.

5. Nursing

OVERSUPPLY: Nursing remains the largest single health profession in the U.S. In part because of its size and its traditional practice base of the hospital, it has the greatest potential for dislocations over the next decade. Closure of hospitals and operating beds will place enormous pressure on nursing to redirect much of its professional practice. As **Table 14** and **Table 15** indicate, there is a growing supply of nurses to population and to hospital beds. A reduction of beds such as the one anticipated by this report will mean as many as 200,000 to 300,000 nursing jobs may be lost with the eclipsing of the role of the acute care hospital.

TABLE 14

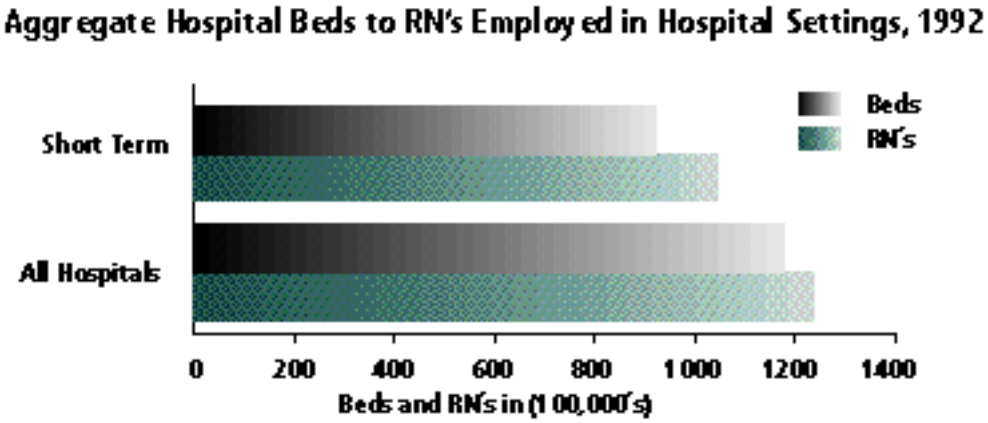

TABLE 14

Sources: The Registered Nurse Population: Findings of the National Survey of RN's. *BHPr, HRSA, HS, HHS, March 1992*. The AHA Profile of U.S. Hospitals. *American Hospital Association, 1993/94.*

TABLE 15

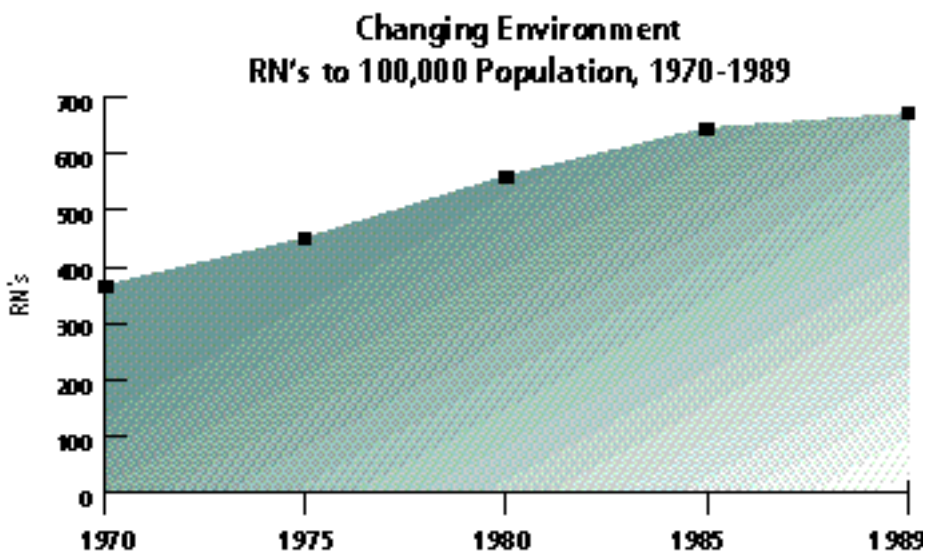

TABLE 15

Source: Eighth Report to Congress. *BHPr, 1991.*

There will be important gains by nursing in primary care settings as nurse practitioners and nurse midwives are permitted wider ranges of practice and RN's move into community and ambulatory care settings. Even with tremendous growth in these areas, a significant number of nursing positions will be lost from the system as it removes inefficiencies.

EDUCATION: The growth in nursing professionals has come primarily from the rapid expansion of two-year associate degree programs.[xxii] While this has been an efficient way to provide basic instruction for a hospital staff nurse, it does not adequately address the potential opportunity and enormous demands that will be placed on nursing in the future.[xxiii] Advanced preparation through **baccalaureate study and masters level degrees** will permit the nursing professional to develop the information background and experience base to operate more independently, work in community settings, more effectively manage the health of patients and make an even more profound contribution to health care.

INFRASTRUCTURE: One difficulty that nursing has in responding to this crisis is its **labyrinthine professional definitions, educational pathways and practice patterns.** The infrastructure of the nursing profession is confusing from the outside and creates friction from the inside, both of which leave the profession somewhat debilitated as it prepares to respond to the challenges of the emerging system. This is unfortunate for the nursing practitioner and tragic for the consumer of health care because in many ways nurses are the best-prepared professionals to respond to the changing system. Their training focuses on the delivery of cost-effective care; they have multiple educational entry points to the system; they combine clinical and managerial skills; they focus on the behavioral aspect of health more than physicians; and they are effective team workers and leaders. Yet tensions within their profession have compromised their ability to respond.[xxiv]

PROGRAM DIVERSITY: There has been an ongoing debate about the independent practice of nurses. Given the dimensions of systems of integrated care, this is a moot concern for the future. There has also been an ongoing concern about the difference among the two-year, three-year, four-year and masters-degree-prepared nurse. Nursing should celebrate its diversity (and its efficient and diverse educational programs) and work harder to distinguish how these differently prepared professionals practice.

SERVICE LOCATION: Nursing has roots both in the hospital and in the community. Over the past fifty years its practice has been dominated by nursing service in the hospital. Such service expertise should not be lost; but nursing must recover its **roots in the community and with the family** and understand the delivery of the care it offers not just through the public health or school-based clinic, but in the variety of care delivery settings that will be invented in the community by managed care.

INTEGRATION: In many instances nursing has isolated its educational enterprise from the practice field as it pursued a more professional basis in education and research. This lack of linkage to the care delivery system is both a weakness and a strength. The weakness, of course, is that it has been isolated somewhat from the clinical setting of teaching hospitals. The advantage is that teaching hospitals are precarious places to reside these days. To correct this, nursing educators must forge new alliances with the emerging integrated systems. **Such alliances must address education, research and patient care.** Unless nursing faculty understand the delivery of care in managed care settings, they will not adequately exploit the great opportunity that now presents itself.

RECOMMENDATIONS FOR NURSING

E1. Educational Diversity: Recognize the value of the **multiple entry points** to professional practice available to nurses through preparation in associate, baccalaureate and masters programs; each is different, and each has important contributions to make in the changing health care system.

E2. Profession Titles: Consolidate the **professional nomenclature** so that there is a single title for each level of nursing preparation and service.

E3. Career Ladders: Distinguish between the **practice responsibilities** of these different levels of nursing, focusing associate preparation on the entry-level hospital setting and nursing home practice, baccalaureate on the hospital-based care management and community-based practice, and masters degree for specialty practice in the hospital and independent practice as a primary care provider. Strengthen existing career ladder programs

in order to make movement through these levels of nursing as easy as possible.

E4. Education Programs: Reduce the **size and number** of nursing education programs (1,470 basic nursing programs as of 1990) by 10-20%. These closings should come in associate and diploma degree programs and should pay attention to the reality that many areas have a shortage of educational programs and many more have a surplus.

E5. Training Programs: Encourage the expansion of the number of **masters level** nurse practitioner training programs by increasing the level of federal support for students.

E6. Integration: Develop new **models of integration** between education and the highly managed and integrated systems of care which can provide nurses with an appropriate training and clinical practice opportunity and which model flexible work rules that encourage continual improvement, innovation and health care work re-design.

E7. Management Role: Recover the **clinical management role of nursing** and recognize it as an increasingly important strength of training and professional practice at all levels.

6. Pharmacy

WORKFORCE: Like the other clinical disciplines, the pharmacy profession will experience considerable dislocations with health care change. Unlike the other disciplines, **pharmacy has already made great strides** to redirect professional training and, to a lesser degree, practice away from the traditional activity of drug dispensing to a richer set of activities, including clinical management, resource utilization and system design and oversight.

OVERSUPPLY: The organization and delivery of pharmaceutical care is suitable to the changes likely to come about by a more intensively managed and integrated system of care. The use of new information, communication and robotics technologies already makes many of the traditional functions physically carried out by the pharmacist or pharmacy technician inefficient and, in many cases, obsolete.[xxv] Included among these are the inventory and dispensing of pharmaceuticals, quality control and education of other health professionals and the consumer of the drug. However, as **Table 16** suggests, there has been considerable

TABLE 16

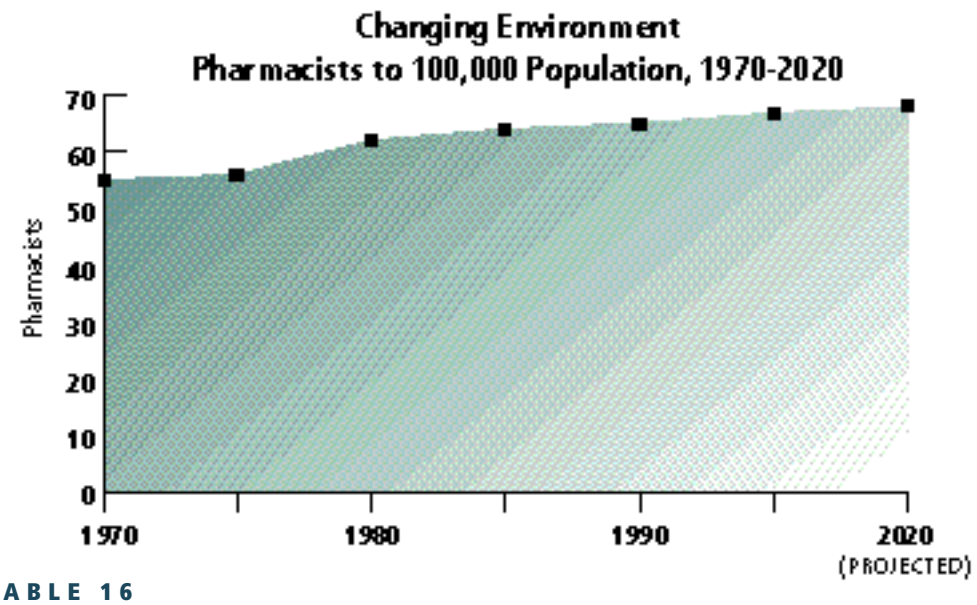

TABLE 16

Source: Eighth Report to Congress. *BHPr, 1991.*

growth in the ratio of pharmacists to population. As a more integrated system rationalizes the distribution of pharmaceuticals, even with these changes, the number of professional pharmacists seems to be in oversupply for the system that will soon emerge.[xxvi]

COMPREHENSIVE DRUG THERAPY MANAGEMENT

An emerging area where pharmacists are likely to play a key role, along with other health professionals, is in the provision of comprehensive drug therapy management. Comprehensive drug therapy management is "the collaborative process of (1) selecting appropriate drug therapies, (2) educating patients, (3) monitoring patients, and (4) continually assessing outcomes of therapy. The primary goal of drug therapy management is to improve patient outcomes in a cost-effective manner."[xxvii] With the ongoing dramatic changes in the health care delivery system, which is rapidly becoming oriented toward the management of health, comprehensive drug therapy management can play an important role in helping to reduce costs, improve outcomes, and engage practitioners and patients in a partnership aimed at improving the quality of care. Pharmacists are one of several health care professionals likely to participate as key players in this endeavor. As comprehensive drug therapy management becomes further defined and more commonly used, health professions educators must find ways to help students and practicing professionals develop competencies needed to more effectively provide comprehensive drug therapy management.[xxviii]

RECOMMENDATIONS FOR PHARMACY

F1. Schools: Reduce the number of pharmacy **schools** (75 schools and colleges in 1995) by 20-25% by the year 2005. These closings should target institutions exclusively offering the professional baccalaureate degree.

F2. Targeted Closings: Recognize the need to evenly **distribute these closings** to accommodate underserved areas.

F3. Training: Focus professional pharmaceutical training even more on **issues** of clinical pharmacy, system management, and working with other health care providers.

7. Public Health

ADDRESSING CHANGE: A health system that is driven by market forces will mean a very different future for the public health professions, for professional schools and for relations between health professionals. Some of these changes will be positive, presenting a new context and great opportunities for dramatically altering professions; others may initially be seen as negative and threatening to the core of the values of certain professions. In such dramatic change lies opportunity, but **it will require innovation and creativity to realize that opportunity and leadership to sustain the changes necessary to secure it within any given profession.**

ENROLLMENT: By the end of the century, the vast majority of Americans will be enrolled in one of the integrated health systems. Most will be enrolled with a capitated benefit. After the initial assembly of the organizations and the inevitable consolidations, relatively few plans (probably no more than four to six in a given area, if current trends hold) will enroll 80-100 % of the insured population. Most of these plans will be accountable for the health and financial risks associated with the majority of the individuals they enroll. This will inevitably encourage them to manage the health of their enrolled populations.

The goals of this management will be the following:

1. They will attempt to use all means to deliver the contracted services for a stable or reduced cost and price. Initially this will be done to achieve a profit or financial stability, but eventually, such a commitment to delivering services at reduced costs will become part of the effort to achieve and maintain greater market share.

2. The systems will attempt to improve the level of patient, customer or consumer satisfaction with the services delivered through both the clinical and non-clinical programs.

3. The systems will address the issues of improving the clinical outcomes and functional status of their populations. Systems managers will be motivated partially by a desire to keep patients satisfied and partially by the recognition that such programs can lower overall costs.

Clearly, there will be a great variety of experiments within the various systems, but the need to lower costs, expand quality and improve customer satisfaction will be constant in all of them.[xxix]

MANAGEMENT DISCIPLINES: The management of a population in such a manner will require the skills and competencies found in some of today's public health disciplines. Epidemiology, health policy and administration, biostatistics, health services research skills, health education, evaluation and other parts of the intellectual core of the public health disciplines are the basic tools for assessing the health needs of populations, developing programs of intervention and evaluating their costs and efficacy. While the management disciplines, education and other social sciences can contribute to such a process, none has the integrative capacity, background in problem-solving or "outcomes" orientation that these highly competitive integrated delivery systems will require.

It is the task of the professions and the schools to make the potential contribution of public health disciplines clear to the leadership of the new integrated systems. Furthermore, new links among schools of public health, the profession of public health and the emerging integrated delivery systems will be required. As these linkages are formed, new opportunities for public health school graduates will open in all aspects and at all levels in the management and leadership of these integrated delivery systems. Moreover, these systems will provide an exciting new source of research problems, resources and funding for faculty of public health schools.

ONGOING RETRAINING: The needs of the integrated systems will not be met simply by hiring public health professionals. As care is managed throughout the organization, clinicians throughout the system will need to develop the requisite skills to manage the health and improve the value of care for the enrolled populations. This will require substantial and ongoing retraining of nurses, physicians, allied health personnel and managers. Epidemiologists, biostatisticians, health educators and others will be essential to this undertaking, but they will be required to apply their skills in new contexts. For example, large numbers of health professionals will require retraining in disease prevention, clinical epidemiology, process and systems analysis and managerial epidemiology.

These developments point to a renaissance for the public health professions, practice and education, but these changes will not come about without a concerted self-examination and restructuring by the entire profession.

Several strategic steps are essential to realize the full potential of this undertaking:

1. Schools should conduct or revise their strategic plans to accommodate the enormous impact of these market-driven changes. This will require that schools remain creative and open to opportunities afforded by market-driven change.

2. The schools and the profession must embrace the market revolution and not reject it out of hand for ideological reasons. This market, like all markets, will fail to meet some of its consumers' needs. Having public health professionals inside the system to understand and correct such shortcomings is vital to the public's health.

3. The schools and profession must open new relationships and partnerships with these market-derived institutions. These partnerships, which will be equally important to education, service and research, will form a better understanding and provide the foundation for deeper collaboration. The disciplines within the schools should use the opportunities presented by these partnerships to develop an orientation more focused on solving systemic problems.

4. The learning opportunities offered students should incorporate the new knowledge, skills and competencies related to the analysis of health care as a system and the re-design of work for the continual improvement and innovation of care. Such an orientation has implications for professional training at the masters level and doctoral training and research.

RISK: All of these initiatives will require creative, risk-accepting leadership from the schools and the professions. Accepting such challenges will assure that public health will remain vital and relevant in the next century.

RECOMMENDATIONS FOR PUBLIC HEALTH

G1. Education Programs: Create new public health education programs that bring together the traditional public health disciplines with the clinical professions. These programs should be created **in conjunction with** state government, local government, managed care organizations and other non-academic institutions.

G2. Partnerships: Develop partnerships to apply **population health management skills** to the problems that are now faced by highly managed and integrated systems of care. These partnerships should include research, service and training components.

G3. Support Base: Create programs at the federal, state and managed care organization levels to continue and enlarge the support base for a **broad range** of psycho-social-behavioral research and training.

G4. Basic Science: Reframe **public health as a basic science,** incorporating the new knowledge, skills and competencies related to the analysis of health care systems for the continual improvement and innovation of care.

G5. Education Funding: Recognize the **obligation** at the state and federal level to adequately fund public health education and practice institutions, particularly in an era of market-driven health care.

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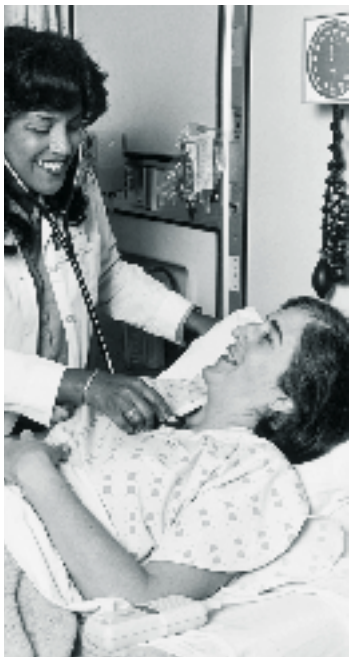
V. Case Studies



The following case studies exhibit the institutions and governmental bodies which have undertaken strategies that the Commission believes will be necessary across the entire health care system. None of the workforce solutions or innovations here can be considered perfect or ideal, but they do shed light on the qualities of leadership, perseverance and open-mindedness necessary to re-engineer, re-regulate, right-size and improve the skills of today's health care workforce.

CASE STUDY #1: Workforce Skills Enhancement — Community Oriented Primary Care Program at Parkland Memorial Hospital

Overview of the COPC Program

Founded in 1987, the Parkland Community Oriented Primary Care (COPC) Program serves the population of Dallas County, Texas, which is home to 1.8 million people and includes the city of Dallas. Nine community health centers and fifteen school-based clinics situated in medically underserved areas of the city and county offer an integrated set of health and human services, including primary health care, social and psychological services, Women-Infants-Children (WIC) programs, nutrition, radiology, dentistry, pharmacy, and soon, optometry. In addition, services are provided in twenty-two homeless shelters, and traveling teams (physician assistant, nurse, clerical worker) visit schools that do not have an on-site clinic. Because the program is part of Parkland Memorial Hospital, direct referral can be made to Parkland for inpatient, emergency, or specialty care. Altogether, patients receive a full continuum of care.

Comprehensive Health Care Model: The Parkland COPC Program is an excellent example of a primary care delivery system that is based on a comprehensive health care model, rather than on a medical care model. Although aspects of the program specifically address the needs of the indigent and underserved, the program as a whole can serve as a model for providing integrated services to any population and for truly managing the care of individual patients within that population. That the model is based on prevention and a focus on long-term outcomes rather than short-term results means that it should be cost-effective over time.

The overall goal of the program is to deliver services to previously unserved or underserved people in order to improve their health status by providing:

- patient-centered, patient-valued care that is comprehensive and continuous
- health care to the indigent population
- training sites for health professions students
- opportunities for minorities and women
- continuous dedication to quality improvement

Some specific, health-related goals include:
- reducing mortality and morbidity from heart disease and diabetes
- increasing immunization levels
- providing more cholesterol screening
- increasing mammography rates

Workforce: The range of workers employed by the COPC Program in the various centers is wide: primary care doctors, nurse practitioners, physician assistants, social workers, social service eligibility specialists, public health providers, health educators, psychologists, pharmacists, community liaisons, translators, dentists, nutritionists, and so on. Currently, the program employs 350 workers, including 45 physicians and 20 mid-level practitioners (nurse practitioners and physician assistants). The goal is to increase the number of physicians and mid-level practitioners to 150 by late in this decade. Approximately 50% of the workers live in the community served by the center in which they work. Those who are served by the centers also can choose to perform various services (e.g., baby-sitting, clerical assistance) at the clinics in partial payment for the services that they receive. Health professions students from the University of Texas Southwestern Medical Center complete clinical rotations at the centers, and this has resulted in recent years in successful recruitment from the ranks of these students and medical residents.

Target Population: The COPC Program, whose parent organization is the county's 940-bed public hospital, Parkland Memorial Hospital, has a target population of 350,000 indigent people, primarily Hispanic, African-American, and white. The population of each center, however, is unique, ever-changing, and reflects the community of which it is a part. The East Dallas community, for example, has gradually shifted from predominantly Asian to Hispanic, but also includes Vietnamese and Kurdish groups, and has a large geriatric population. In some communities, recent growth in the Hispanic population has created a need for additional Spanish-speaking health care workers. The Bluitt-Flowers clinic in southern Dallas county, for example, initially was staffed based on its mostly African-American population; a recent influx of Hispanic people has left the center with insufficient numbers of Spanish-speaking practitioners. **The COPC Program, through its Cultural Diversity Committee, works actively to develop the cultural competence of its workers in order to enhance the accessibility of its services.**

Community Resources: While an integral part of the COPC Program is to assess health care needs, the program also attempts to assess community assets. The Department of Strategic Planning and Population Medicine at Parkland Memorial Hospital works to identify and marshal these assets in order to strengthen the work of the community health centers. In a certain community, for example, forming a partnership with the pastor of a church who is a community leader can help to legitimize the work of the center and extend its reach while also building up the existing grass roots effort.

History and Development of the COPC Program

In the mid-1980's, Parkland Memorial Hospital was faced with serving an increasing caseload of medically indigent patients. Admission rates were increasing at the rate of 5.4% per year and outpatient clinic visits had risen to 300,000 in 1986, with a projection of one million outpatient visits annually by the year 2000. Costs were increasing due to increased acute, hospital-based treatment of conditions that could have been either prevented through adequate primary care or treated in primary care settings. In short, the hospital had to find a way to decrease costs and reduce congestion. In 1986, the Dallas County Commissioner's Court and Parkland Hospital engaged in a study of community

needs for primary care, and the Commissioner's Court subsequently asked Parkland to design a decentralized, more cost-effective system of health care. In addition, in 1987 a county-wide health needs assessment conducted by Parkland Hospital analyzed the populations within Dallas County's 64 standard statistical communities to evaluate economic status, educational level, ethnicity and race, infant mortality, leading causes of mortality, and number of primary care physicians per population. The assessment identified eight communities that were disproportionately poor, medically underserved, and experiencing higher mortality rates than the county as a whole.

The Plan: In September 1987, Ron Anderson, M.D., Chief Executive Officer for Parkland Hospital, presented to the Commissioner's Court a Community Oriented Primary Care Plan designed to provide high-quality primary care services in a more efficient and cost-effective manner in neighborhood settings convenient to the residents of Dallas's communities. The Commissioner's Court approved the plan, thereby accepting major responsibility for funding COPC through county taxes. In the fall of 1989, the COPC program began with the establishment of contracts with three existing community health centers and the construction of a new facility, all in communities identified in the 1987 assessment as high-need areas. Throughout the early years of the program and continuing through its steady, ongoing expansion, Ron Anderson has served as the program's champion, effectively communicating its mission.

Although fairly strong consensus existed regarding the need for the COPC program, Dr. Anderson spent considerable time in the community selling the program. Private practitioners (mostly subspecialists with a few primary care physicians) in particular were concerned that the program's impact would include taking away a significant part of their patient base. Data showed, however, that the COPC program would have minimal impact because it would serve a different patient base, specifically patients who were uninsured and indigent and not likely to find their way to a private practitioner's office. **In fact, in the five years since the COPC program was implemented, there has been no adverse impact on private practitioners.** Although developing and encouraging cooperation among agencies responsible for health and mental health care, social services, and education has been difficult at times, cooperation has been driven by the widespread recognition of the needs of the various community populations.

Funding: Another concern was that the program would be short-lived rather than long-term. Funding for the program, however, has been structured to maximize the likelihood that the program will exist indefinitely. In 1993, the early retirement of debt permitted the redirection of debt service taxes to the COPC program. These redirected tax funds amounted to $4.47 million in 1993 and $9.38 million in 1994 and each succeeding year. The funds have enabled the program to continually expand. Three additional health centers are scheduled to open within the next two years, and a new maternity center is in the planning process. In addition, funding is derived from taxes, Medicaid and Medicare revenues, collection of fees from patients, and grants from public and private sources. Patient fees are based on ability to pay, and typically may involve, for example, a $10 co-payment for an office visit and a $6 co-payment for a prescription. Examples of grants that have been obtained include those that fund HIV, cancer intervention, and neonatal programs.

Currently, however, the COPC program is facing a threat to its financial viability in the form of changes in the marketplace with respect to Medicaid. While in the past many private practitioners would not accept Medicaid patients, now managed care organizations are competing for them. If private insurers were to take them on, Medicaid patients

potentially would have a greater choice of providers outside of the Parkland/COPC Program system, leading to a loss of Medicaid funds. A proposal that is being considered at the state level now, however, would provide some protection.

Program Assessment: Although an important aspect of COPC in general and of the COPC Program in particular is the assessment of outcomes, difficulties in developing an effective, integrated data collection and management system have impeded efforts to evaluate comprehensively the outcomes of the COPC program. Although the COPC program health centers all use the same information system, that system does not interface with the system used by Parkland Memorial Hospital, making it impossible to fully track utilization and patient outcomes. Some small-scale studies have been conducted, however. For example, one study suggested that asthma is being more effectively treated, since fewer asthma cases are now treated in the emergency room.

CASE STUDY #2: Workplace Re-engineering — Community Hospitals of Central California

Overview of Community Hospital's Restructuring

Community Hospitals of Central California (CHCC), a non-profit system of three hospitals, three long-term care facilities, a cancer center and an imaging center, has provided care to residents of California's Central Valley for nearly 100 years. At the time of the re-engineering, the system had been integrated for several years, but each entity continued to operate separately. Employees in the system were segregated according to job title, description and rank, which created a burdensome administrative structure that was inefficient, hampered clinical outcomes and provided substandard customer service. CHCC's system, in which housekeepers who cleaned different surfaces had separate job classifications, department head meetings involved over 100 people, patients interacted with over 60 employees in a single visit and outpatient testing involved a half-day odyssey, was clearly inefficient. Although CHCC provided sound clinical care, its customer service practices paled in comparison to those in the service sector, and for every dollar spent on direct care, CHCC estimated that it spent three to four dollars arranging and documenting that care. When a new Kaiser facility planned to compete in their market, CHCC found itself at a crossroads, questioning the systems and structures which had been in place for decades.

Taking the lead from the service sector's re-engineering efforts during the 1980s, CHCC set out to correct the inefficiencies in its system. The objective of the re-engineering process, termed **"Corporate Integration,"** was to transform the organization from a cumbersome system that was often disjointed and duplicative, one which frequently penalized the patient, to **a patient-focused system where 90% of the "decision-making process" is at the point of service (at the bedside).**

To accomplish this, CHCC implemented some radical policies, including these measures:

- 214 management positions were reduced to 36
- Management titles were pared down from 15 to 3
- 10 new job classifications replaced the previous 650 job classifications
- The number of layers between the CEO and caregiver shrunk from 12 to 2
- All employees were cross-trained
- All employees were required to re-apply for re-designed positions.
- Traditional organizational structure and line management were replaced with three

councils: Governance, Service, and Operations
- Two new positions, Service Leaders and Service Integrators, replaced the traditional roles of Chief Operating Officer, Senior Vice President, Vice President, Director, etc.[i]

History and Development

The origins of CHCC's flagship facility, Fresno Community Hospital, date back to 1897 when a group of Fresno physicians convened to form a private hospital. However, the system's history began in 1979 when Fresno Community Hospital bought Clovis Hospital. Later, in 1982, the two hospitals merged with Sierra Community Hospital to form Community Hospitals of Central California. Sierra Community Hospital brought the three long-term care facilities to the system, and the cancer center and imaging center were added within the last two years.[ii]

In 1990 Terry Curley, CEO of Sierra Community Hospital (SCH), started making changes solely within Sierra to explore patient-focused care. Patient focused care, a philosophy which organizes a hospital's resources and personnel around patients rather than a multitude of specialized departments, led Curley to completely re-engineer and ultimately streamline the operations at SCH. Initial principles of SCH's re-design included the idea of "patients first, departments second" and a desire to simplify administrative structures and merge compatible departments. Looking at aggregated numbers three years after the restructuring, Curley found that SCH had eliminated 80% of its management and decreased the FTE base by 30%, while patient satisfaction had exceeded all other hospitals within their system, surpassing even national targets.[iii] At the same time, leadership of CHCC felt that the organization as a whole was far from their ideal of patient-focused care. Additionally, the system faced enormous competition in a managed care environment, and a Kaiser facility was slated to open within their service area in March, 1995. In December of 1993 CHCC's CEO, Bruce Perry, asked Curley to develop **an integration plan for the entire system, modeled after the successful Sierra prototype.**

Steps Leading to Implementation

Assembled in April 1994, the Corporate Integration Resource Team consisted of 22 members, representing all support professionals, hospital support personnel (e.g. janitorial, food service) as well as ancillary services (e.g. transportation). Three physicians were on the team and six of the members worked full time on the re-engineering. Modeling the system integration after Sierra's successes, that group in turn set up design teams at each of the system hospitals and facilities. After eight weeks of meetings and training sessions, the team came up with a set of recommendations for change totaling 850 pages.

Next, three people from each team assembled together for a week, charged with identifying system solutions rather than individual hospital solutions. The group produced a body of recommendations for corporate change and 150 people went on a retreat to form a consensus on how to begin the re-engineering of the corporation. The group ultimately determined that within the current system—with the seven management layers between the patient and CEO—plans for corporate change would be impossible to implement without a total re-engineering of the system.

A Steering Committee on Shared Governance was charged with the task of developing a new corporate structure within which the new corporate solutions could be implemented. Bruce Perry set a framework for the new system in which no more than two management levels could exist between patient and CEO and mandated that all structures must be system-wide (eliminating all hospital- and facility-specific functions).

Core Values

Guided by four core values—collaborative care, patient-focused care, shared governance and continuous quality improvement—CHCC's Corporate Integration program provided radically different patient care. CHCC defines these values as:

Collaborative Care: 1) Patients are at the center of decision making; 2) home-like settings that nurture and heal are preferred; and 3) access to information and personal control are desirable.

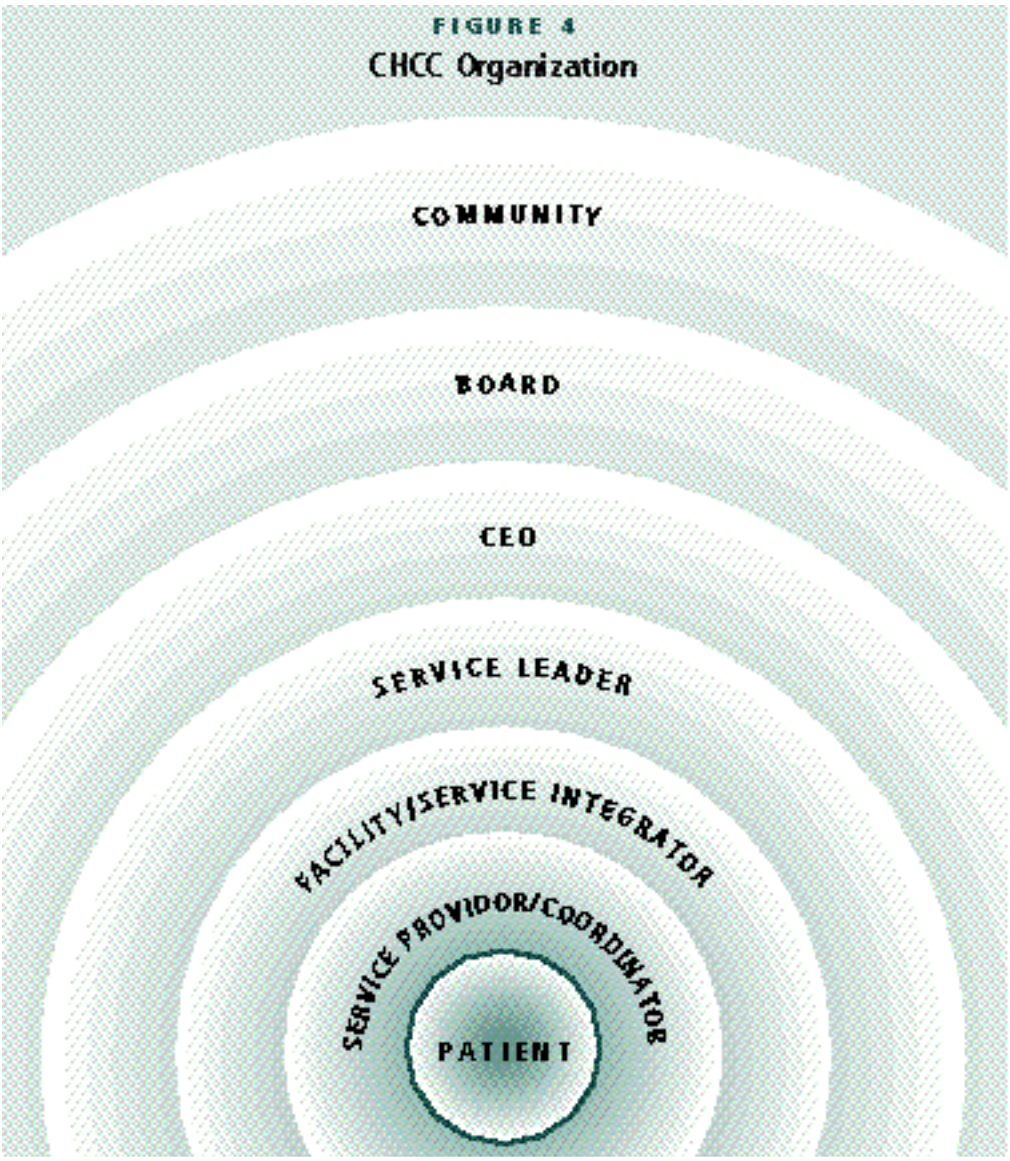
Patient-Focused Care: 1) The patient is the focus for all structural decisions; and 2) patient care is improved when caregivers are generalists, rather than specialists (cross-training is valued and required).

Shared Governance: 1) An inverted organization structure fosters communication and involvement; 2) employees at all levels and divisions are involved; 3) employees are empowered to make their own decisions; and 4) employees have the responsibility and accountability of governing issues directly related to their professional practice.

Continuous Quality Improvement: A change philosophy that will provide better patient care by emphasizing constant attention to improving systems rather than the traditional search for the poor performer.[iv]

FIGURE 4

CHCC Organization



A New System Created

To embrace these core values throughout the system, **the Committee eliminated the old system structure in its entirety,** breaking down all of the traditional "departments" in each of the system hospitals, reducing the job classifications from 650 to 9 and eliminating all of the old titles other than CEO. All employees had to re-apply for the new positions. Committing to true patient-focused care, the CEO appointed nurses to the two Service Leader positions (see Figure 4).

In this new system, emphasis is placed on generalized service for patients rather than fragmented and specialized duties. Nurses, termed clinical partners, work in conjunction with a team of technical partners and patient service partners. Formerly working under narrow job descriptions, patient service partners (previously called housekeepers and janitors), have been trained to perform duties, such as turning a patient in bed. As Perry explained, "There aren't nursing things anymore; there aren't pharmacist things anymore; there aren't respiratory things anymore. There are only patient things." [v]

Many at CHCC found the new system, which promotes team work and empowers employees, to be rewarding. Karen Fischer, a nurse who remained at CHCC after the restructuring explained, "I feel positive about it. I can take the time to talk to patients and family members," having been freed from custodial duties.[vi] Still there was plenty of fear and dissent, particularly from nurses, who perceived that the changes would endanger patients. But as David Hinton, M.D. explained:

> ...we don't have nurses doing floors. And, we don't have housekeepers doing heart catheter procedures. We do, however, expect all our employees to take responsibility for keeping the floors free of litter. We expect every employee to be courteous and helpful. The basic idea behind the re-design is to give more power to the employee, not less.[vii]

To soften the impact of the radical changes, CHCC took several steps. First, employees were offered a generous early retirement package. Other employees were offered good severance packages. CHCC also employed an innovative "money-back guarantee" to remaining employees to try out the new system. If, after 90 days, employees were not happy with their new positions, they were able to take the severance package. In the end, CHCC did not lay off any employees: 120 employees opted for early retirement, 192 others took the severance package, and of those who opted for the severance package, 38 were RNs, and 27 were managers.

Costs — Financial and Non-Tangibles

On the financial side, early retirements and severance packages cost the system nearly $5 million in fiscal year 1994. But despite enticing early retirement packages, CHCC leadership faced opposition to the re-engineering from many of its 3,755 employees. Naturally, the 214 managers whose jobs were eliminated or re-designed presented a great deal of resistance.

Persuasion was needed at all levels. Senior management at Fresno Community Hospital, the flagship facility, initially supported the restructuring at Sierra Hospital (the "junior sibling"), assuming that it would never affect their facility. When the process began at Community, many of these managers went directly to Perry to complain, and Perry bounced them back to the process.

Although the restructuring was perceived by some as a dishonest scam to lay off employees, once employees actually "roadtested" the new system, few left. (Although 38

nurses took the severance package, it is unclear whether the opening of the new Kaiser facility or the restructuring was responsible for this loss.)

Results

The recent increase (or maintenance) of **patient satisfaction,** increases in **nurse-to-patient ratios,** a reduction in **pharmacy response time** from 7 hours for antibiotics to 23 minutes, as well as rebounding staff satisfaction, speak well of CHCC's transformation. The ratio of overhead to patient care costs has improved. Before the re-engineering, CHCC spent 28% of its budget on overhead and 72% on patient care, and those costs are now 25% and 75%. Furthermore, **administrative costs** for the six months ending February, 1995 were 11% less than the previous six months.

Initial mortality data indicate that quality has not been adversely affected either. **Adult mortality rates** at Fresno Community Hospital (FCH) remained constant during the re-engineering at 0.5%, even though the acuity index rose by 3.5%, indicating that patients being treated were sicker.

Lessons Learned and a Vision for the Future

Certainly, the system still has progress to make. However, this largely successful program is due to:

- the CEO's commitment
- the swift and confident manner in which the implementation was carried out
- the inclusion of employees in a plan of shared governance

It is clear that Bruce Perry's commitment to this program was key. Three years of experience at Sierra, which demonstrated that these reforms could indeed work, gave Perry the confidence to implement the restructuring without caving in to employee demands or fears. Further, the inclusion of employees, and the dedication to shared governance in the future created a smoother transition throughout the reform, while also ensuring success in the future.

Retrospection

In hindsight, there are only a few issues that the team could have addressed in a different manner:

1. They may have found the entire experience easier if they strove to convince employees of the need for the reform by sharing more of the projections of the Kaiser facility's impact. Terry Curley avoided the hard sell of a "Kaiser cloud."

2. Guaranteeing jobs for a certain length of time might have softened the fear factor. Many employees did not trust cross-training.

3. It was also clear that there is no such thing as over-educating or over-communicating the message to change. While over 200 presentations were made to staff during the process, many sessions are now being repeated. Employees simply did not want to come to terms with change until it actually happened.

Change, however painful, has occurred at CHCC. Those facilities which clearly understood the necessity of this change and fully participated during the restructuring, rather than burying their heads in the sand, have fared best during this tumultuous period.

CASE STUDY #3: Re-engineering the Workplace, Re-regulation, Right-sizing and Enhancing Workforce Skills Through Delivery System Integration — Henry Ford Health System

Overview of the Henry Ford Health System

The broad-based, integrated delivery systems that are now emerging in American health care encompass a comprehensive range of services that can provide the full range of care needed by diverse patient populations. These systems, which accept responsibility for caring for a population of enrollees and accept risk for the cost and quality of care, feature primary, specialty, and hospital care, with an accompanying array of other services such as home care, long-term care, health education, outpatient surgery, hospice care, and physical and psychiatric rehabilitation. A central concern of such systems is creating value—that is, maximizing quality while minimizing cost. Consequently, an important factor in the success of such systems is the extent to which participants can contribute to lowering costs, enhancing patients' satisfaction, and continually improving the quality of care. The Henry Ford Health System (HFHS), a vertically integrated, comprehensive health care system located in Detroit and serving the southeastern region of Michigan, typifies these emerging systems.

The goal of the HFHS is to maintain or improve the health of its customers by providing comprehensive, advanced clinical care while emphasizing health care delivery through managed care. In addition, HFHS maintains strong emphases on education at the preprofessional and continuing professional levels and on research. Such emphases help to ensure that members of the Henry Ford workforce are competent and full participants in providing cost-effective, high-quality health care to the enrolled population, and that the provision of care is continually improving.

Integrated Care

The Henry Ford system strives to provide integrated care that is:

- **Customer-oriented and responsive** to the needs, expectations, and desires of its patients, physicians, and purchasers
- **Decentralized,** community-based, and accessible, yet provides a whole range of services within a single organizational unit
- **Efficient**
- **Focused** on a specific population in a defined geographical area, with planning based on the needs of specific communities
- **Involved** with epidemiologically based planning, which focuses on the health needs of the population, not the supply of physicians or the availability of technology
- **Physician-led** for the direction of clinical policy-making and organizational development
- **Reliant** on a unified patient data system that allows integration of patient care across the continuum and generation of data on effectiveness and clinical outcomes
- **Available** through a variety of financing arrangements and partnerships
- **Accessible** to the entire community—not just the enrolled population—through the system's commitment to community activities such as school clinics, indigent care, preventive screening programs, and so on.[viii]

Education Programs

The Henry Ford system is noteworthy for its strong focus on health professions education. Graduate and undergraduate medical education efforts include an innovative part-

nership with Case Western Reserve University, which is funded through the Robert Wood Johnson Generalist Initiative. Students in the generalist physician track spend the first two years of medical school at Case Western Reserve University and then five years with the HFHS, focusing throughout on generalist training in internal medicine, pediatrics, and family medicine. The HFHS also is a training site for students at the University of Michigan School of Medicine. In addition, 640 medical residents and fellows per year train at the HFHS.

Nursing education programs at the HFHS include a Henry Ford Hospital-based diploma program, which is affiliated with the University of Michigan (Dearborn,) and a Second Career/Second Degree program, which is conducted in collaboration with Wayne State University and which produces BSN-level nurses. Allied health education programs at the HFHS prepare cytotechnologists, dietitians, occupational therapists, radiation therapists, social workers, nurse anesthetists, and physical therapists.

Continuing Professional Education

In addition to preprofessional education, the HFHS provides continuing professional education through the "Managed Care College" at the Metro Medical Group, the staff-model component of the Health Alliance Plan. The college is an eighteen-month-long program that serves all of the primary care practitioners affiliated with the Metro Medical Group. During the first phase of the program, clinicians attend monthly classroom sessions to review the fundamentals of clinical epidemiology, critical literature appraisal, clinical policy analysis, total quality management theory, applied ethics, and the use of microcomputers. Participants also examine the dimensions of primary care and the management of the care of populations. In addition, participants attend weekly study group sessions to pursue assignments that enable them to practice newly acquired skills. During the second phase of the program, participants develop clinical policies concerning specific clinical topics or management problems, using the skills that they learned in the first phase. Throughout, clinical practice profiles are used to monitor the effect of the program on the daily practice of participants.

Research

Research is an integral part of the HFHS and is carried out through the Center for Health System Studies, the Center for Clinical Effectiveness, the Division of Biostatistics and Research Epidemiology, and the Division of General Internal Medicine. The Center for Health System Studies, whose goal is to produce new knowledge and improvement in the process of health care delivery, grew out of a center for applied health services research at the Henry Ford Hospital. It focuses on studying integrated health care systems and emphasizes research on the relationships among providers or levels of care that promote the integration of patient care processes. Recent research topics have included health system performance indicators, outcomes of care for various illnesses, community health needs, and appropriateness and effectiveness of care for minority populations.

History and Development

The foundation of the HFHS was laid by Henry Ford in 1915 with the founding of Henry Ford Hospital, located at what was then the edge of Detroit but which is now in the inner city. By 1971, 210 physicians and one ambulatory care site were affiliated with Henry Ford Hospital. In that year, the Ford Foundation granted $100 million in seed money for the expansion of the system. By 1980, the system had grown to include, in addition to the hospital, a 350-physician group practice, five medical centers, and an education and

research center, and attention turned to developing a vision of an even more comprehensive health care system for the future.

To realize this vision, a ten-year strategic plan was implemented that involved: 1) shifting from a hospital focus to a health system focus, 2) developing a suburban ambulatory care system and other components, such as nursing homes and home health care, 3) acquiring community hospitals, 4) developing tertiary care programs, 5) expanding the HMO, 6) diversifying the payer and geographical mixes.[ix]

From the mid-1980's to the present, the HFHS has focused on building and aligning **a continuum of care.** Today, the HFHS consists of the following components:

- thirty-five ambulatory care centers in four counties
- an 800-member multi-specialty physician group, the Henry Ford Medical Group
- a 450,000-member health maintenance organization, the Health Alliance Plan
- a 903-bed tertiary care center, Henry Ford Hospital
- two community hospitals, Cottage Hospital and Wyandotte Hospital and Medical Center
- a 100-bed psychiatric facility, Kingswood Hospital
- a chemical dependency program, Maplegrove Center
- home health services and two nursing homes

A System Culture

In recent years, organizational leaders also have been working to create *a system culture.* Beginning in the late 1980's, under the direction of a new CEO, Gail Warden, the system instituted total quality management, streamlined its operations and governance, began a regional planning process, strengthened its focus on the community, further developed its statement of mission, and initiated a strategic planning process to take it into the year 2000.[x]

Several strategies assist the HFHS in maintaining responsiveness to the health care needs of the community:

1) use of innovative financing arrangements and purchaser relations
2) innovative collaborations with other health systems (e.g., Mercy Health Services) and institutions (e.g., Case Western Reserve University)
3) innovative relationships with physicians
4) regionalization
5) orientation toward disease prevention and health promotion
6) reform of clinical practices and roles
7) continual performance measurement
8) building of an information infrastructure
9) ongoing research.[xi]

Conclusion

Integrated health systems hold the potential to align delivery and financing of health care in ways that will contribute to improving care, increasing patient and customer satisfaction, and reducing or holding costs to a minimum. While these systems must be unique to respond to the particular needs of the regional populations that they serve, certain strategies and characteristics will be held in common. Examining single systems can be useful in delineating strategies and characteristics that can be applied across settings to ensure that systems fulfill their responsibilities to deliver comprehensive, high-quality, cost-effective care.

CASE STUDY #4: Re-regulating the Health Care Workforce—The Ontario Experience

Ontario's Regulated Health Professions Act of 1991

As the health professions redefine their responsibilities to respond more effectively to the needs of the emerging American health care system, attention is turning to the importance of a corresponding **reform of systems for controlling and licensing the practice of health professionals.** In 1991, a decade-long process by the government of the Province of Ontario culminated in the passage of the **Regulated Health Professions Act (RHPA),** which represented a radical departure from traditional professional regulation. The re-designed, regulatory structure is intended to lead to the evolution of a more flexible, rational, and cost-effective health care system, and reduction of status distinctions among the health professions.

While a primary purpose of the RHPA is to protect the public from practitioners who are unfit or perform poorly, the act also functions to **minimize the social costs** that result from regulatory-based limitations on (1) consumer choices of providers, (2) innovative use of individual health professionals, and (3) the evolution of professions to meet changing health care needs. The framers of the RHPA hope that the new legislation will afford effective public protection from harm, greater accountability to the public by regulatory bodies, and respect for consumers' right to choose their health providers from a range of safe options.[xii]

Previously in Ontario, a small number of professions held exclusive license to the provision of services that fell within their scopes of practice, while other professions were registered—that is, held exclusive rights to use certain titles. This system, however, could not adequately protect the public and promote cost-effective and efficient use of the health care workforce. Critics of the old system contended that it

> ...gave physicians (and other professions with exclusive licenses) a monopoly that was broader than could be justified by the need for public protection, a monopoly paid for by the public purse in higher fees to physicians and in less efficiently run health care institutions.... [T]he system was sexist and elitist [and] ...did not deliver the public protection it promised.[xiii]

Under the RHPA, all of the regulated health professions, both predominantly female and predominantly male, are given equal status and the same public policy forum in which to express their views.

The RHPA specifies:

- professions to be regulated
- dangerous acts each may perform
- powers and duties of governing bodies
- registration process for health professionals
- procedures for complaining about a health professional
- professional obligations of the regulated practitioners.

The RHPA currently regulates twenty-four professions, including dentistry, medicine, nursing, audiology, massage therapy, midwifery, occupational therapy, opticianry, pharmacy, podiatry, psychology.

Hazardous Acts: A unique feature of the RHPA is its specification of hazardous acts. The RHPA recognizes that only a relatively small number of acts or procedures performed in health care place the consumer at serious risk, and it is regulation of the performance of these acts—and not the regulation of the professions themselves—that constitutes the legitimate use of the government's regulatory power. These hazardous acts include:

- communicating diagnoses
- performing procedures below the skin
- setting fractures
- manipulating the spine
- administering injections
- inserting objects into body openings
- prescribing drugs or hearing or vision aids
- fitting dental prostheses
- managing childbirth
- testing for allergies.

Presumably, any number of occupational groups or individuals might be competent to provide these treatments, and neither consumer choice nor market forces should be restricted beyond the state's interest in assuring that these treatments are performed by competent individuals. The RHPA's 24 companion acts delineate the scope of practice of the regulated professions, including which, if any, of the controlled acts may be performed by members of each profession (massage therapists, for example, may not perform any of the hazardous acts).

Harm Clause: To protect the public from unqualified practitioners who may find ways to circumvent the new regulatory system, the RHPA contains what is known as the harm clause. This provision prohibits unregulated practitioners from providing health-related treatment or advice when it is reasonably foreseeable that serious physical harm may result. Further measures to protect the public include:

- restrictions on both the use of professional titles and the representations that may be made about professional qualifications
- a whistle-blowing requirement that mandates the reporting of colleagues who have violated certain standards
- established procedures for complaints, disciplinary action, and ascertainment of fitness to practice

Under the new legislation, the complaint process is uniform across all professions. Anyone (patient, patient's family member or friend, professional colleague) may have a complaint investigated by the governing body of the particular profession and reviewed further by an independent body, if necessary.

A College: As was the case with the previous system under the RHPA, each profession is self-regulated through an elected or appointed governing body called a college. These colleges, however, are required to function more openly and with greater public accountability than was previously the case. The number of public members on each board is increased from about one-quarter to just under one-half. Each college must have **a quality assurance program and a patient relations program** in order to ensure that services provided are effective, appropriate, and of high quality, and to address instances of sexual abuse of patients by health care professionals. Quality assurance programs are intended to address the issue of continuing competence; however, each college determines for itself how it will ensure that its members are competent to practice both upon entry to the profession and throughout their careers.

Policy Boards: The RHPA provides for a Health Professions Board, which is an appeal and oversight body. Its primary duty is to conduct registration hearings and reviews and review complaints. A new body, the Health Professions Regulatory Advisory Council, is also established to advise the Minister of Health. The Council reviews the need for regulation or deregulation of professions, suggests amendments to the RHPA and associated regulations, and reviews the effectiveness of the health professions colleges' quality assurance and patient relations programs. The Council consists entirely of public members, that is, people who are neither government employees nor members of a regulated health profession. More lay representation on councils of governing bodies, requirements for open meetings and hearings, and mandatory publication of disciplinary decisions all are intended to increase accountability and openness.

History and Development of the Regulated Health Professions Act of 1991

Several principles guided the ten-year reform process in Ontario: openness, consumer choice, and quality care. By the early 1980's, the public was pressing for a more open, responsive, and accountable system, especially with regard to investigation of complaints and to processes for disciplining professionals. In addition, many unregulated professions sought regulation, hospital administrators expressed frustration at restrictions that the existing system placed on their ability to use practitioners efficiently, and the government recognized that coordinated policy-making across all of the health professions was impossible under the existing regulatory system. In November, 1982, the Minister of Health for the province created the Health Professions Legislation Review, whose mandate was to recommend draft legislation regarding (1) which health professions should be regulated, (2) reform of the then-current regulatory act, and (3) a new structure for legislation governing the health professions.

The Process: The Health Professions Legislation Review adopted an **open, collaborative methodology** to accomplish the task with which it had been charged. Coordinated by Alan Schwartz, the review team worked collaboratively with over 200 groups, including approximately 75 health professions groups, represented by governing bodies, voluntary associations, public interest groups, advocacy organizations, health care institutions, and unions. The team invited a wide range of participants to make written submissions on all regulatory issues. Workshops, meetings, and consultation sessions provided opportunities for reviewers to give information and obtain reactions to preliminary proposals. Reform proposals were subject to at least two rounds of broad review. In addition, the review team conducted research regarding health professions regulation in all other Canadian provinces, some of the United States, and ten industrialized European nations.

The Review was charged with presenting its proposals and recommendations to the Minister of Health on an ongoing basis. This system allowed the Minister to provide ongoing review and ensured that the review team was made aware of the Minister's policy objectives. It also allowed the announcement of decisions at critical junctures throughout the process, rather than only at the end. During the review, political changes slowed the process. The legislative review process occurred over the course of three changes in government and eight different Ministers of Health, each of whom had to familiarize himself or herself with the work that had already been accomplished. With each change, professional associations expressed anew their concerns that the new law would threaten their autonomy and erode their self-regulatory authority. The lengthy review process allowed these associations to apply pressure to influence the final legislation. After reaching the legislature, the draft legislation prepared by the Review was subjected to public hearings, extensive examination, and amendment.

Implementation: The RHPA passed the legislature in 1991 and became law on December 31, 1993. As Ontario gains ongoing experience with the RHPA, further refinement may be needed. For example, recruitment of public members to serve on each of more than twenty colleges is difficult. With just under 50% of each college board required to consist of members of the public, the extensive time commitments related to service on these boards, and little compensation, locating potential members poses a problem. Another difficulty is that there are no mechanisms for interaction between and among regulated professionals and unregulated groups who provide related services. Four colleges, for example, are involved in oral health care: The Royal College of Dental Surgeons of Ontario, The College of Dental Hygienists of Ontario, the College of Dental Technologists of Ontario, and the College of Denturists of Ontario. Similarly, three colleges regulate the closely related services provided by physiotherapists, occupational therapists, and massage therapists, and two colleges are directly involved in vision care (the College of Opticians and the College of Optometrists), while ophthalmologists are regulated by the College of Physicians and Surgeons. With the Health Professions Board and Health Professions Regulatory Advisory Council consisting entirely of public members and no current or former public or professional members of college boards permitted to serve on either oversight body, no cross-disciplinary colloquia exist.

Conclusions

Ongoing evaluation of the RHPA will be critical. Its success will have to be measured by the degree to which it meets its primary goals: protection of the public from harm, increased consumer choice, more efficient and cost-effective utilization of health care professionals, and continued evolution of the health care professions to better meet contemporary health care needs.

The Ontario experience, both the content of its new legislation and the process by which it was achieved, holds lessons for others interested in regulatory reform.

CASE STUDY #5: Enhancing Workforce Skills—Pharmaceutical Care in Practice and Education

Pharmaceutical Care: A New Philosophy of Pharmacy Practice

Pharmaceutical care, the practice philosophy through which pharmacists assume responsibility for the outcomes of drug therapy in their patients, represents a radical departure from traditional pharmacy practice. Rather than focusing on the procurement and dispensing of drugs, pharmaceutical care centers on the care of the patient and a collaborative, cross-professional patient care process. It encompasses a variety of services and functions, some new to pharmacy and others traditional. Pharmaceutical care requires a **fundamental realignment of pharmacist responsibility and a major change in pharmaceutical education.** It is consistent with the major themes of health care reform and the movement to a managed care environment, quality improvement and cost reduction, and holds the potential for serving as a model for professional evolution within a changing health care system.

Drug therapy: The most frequently used form of medical intervention in any practice setting is drug therapy, and appropriate drug therapy is often safer and more cost-effective than other forms of treatment. However, the personal and economic consequences of inappropriate drug use are enormous. For example, a recent estimate of the annual costs of medication-related morbidity and mortality (e.g., hospitalizations, additional physician

services, medication-induced diseases, etc.) in the community-based population alone is $76.6 billion.[xiv] Such morbidity and mortality can occur through inappropriate prescribing, poor implementation of drug therapy regimens, inappropriate patient adherence, adverse drug reactions or interactions, and inappropriate monitoring and assessment of outcomes. It has been estimated that pharmaceutical care could reduce the costs of drug-related mortality and morbidity in primary care settings by more than 50%.

The pharmacy profession is positioning itself to provide the clinical and technological expertise and the administrative leadership necessary to improve the quality of the pharmacotherapeutic process and reduce the costs associated with drug misadventuring. More specifically, pharmacists can be instrumental in improving both the health care delivery process and patient outcomes by providing the following team-based services, which represent core activities within the pharmaceutical care model of practice:

- participating in drug therapy decision-making, selection of drug products, and determination of doses and dosage schedules
- preparing and providing drug products for patient use
- providing drug-related information and education to patients and caregivers, including education for chronic disease management, health promotion, and disease prevention
- monitoring and assessing patients to maximize adherence to therapy and to detect adverse reactions and drug interactions
- monitoring and assessing outcomes of drug therapy

Although these services have been developed, tested, implemented, and shown to help alleviate drug-related problems, they often are provided sporadically or in isolation, and drug-induced illness remains a major problem. Pharmaceutical care is collaborative in nature, requiring ongoing consultation and coordination among the professionals involved in the care of a patient. In addition, pharmaceutical care requires additional clinical skills and expert knowledge not traditionally considered to be part of pharmacy's scope of practice. The full realization of pharmaceutical care as the prevailing practice philosophy—in effect, the re-engineering of the pharmacy profession—requires both that pharmacists acquire new competencies and that **all health care professionals understand the broader role that pharmacists can play in assuring optimal patient care and health outcomes.**

Adopting the Mission of Pharmaceutical Care in Practice and Education: History and Development

Pharmaceutical care was first mentioned in the literature in the mid-1950's. Further groundwork for the movement to pharmaceutical care was laid in the late 1970's with the development of the field of clinical pharmacy. Contrary to the centuries-old tradition of focusing on procuring, preparing, and evaluating drug products, the clinical pharmacy movement took pharmacists out of the dispensary and into acute care hospital wards to work with other professionals in those aspects of patient care specifically related to drug therapy. Pharmaceutical care, articulated in detail in 1989 by Douglas Hepler in an address at the second Pharmacy in the 21st Century Conference,[xv] represents an expansion and extension of the basic characteristics of clinical pharmacy practice to a broad set of non-acute-care, non-institutional environments.

Forces within the pharmaceutical industry and the practice environment are strengthening the movement to **patient-focused pharmaceutical care.** First, the pharmaceutical industry gradually has taken over the preparation of drugs. Second, improvements in automated dispensing technologies and information transfer and processing technologies have diminished the pharmacist's role as drug dispenser. Finally, increas-

ingly complicated and expensive drugs, drug regimens, and diagnostic technologies emerging from the biotechnology industry have created demand for cost-effective management of treatment and information. All of these forces have contributed to empowering pharmacists to shift their practices away from the provision of commodities toward providing patient care, information, and pharmacotherapy management. In fact, recent scope of practice studies have documented a clear shift away from purchasing, inventory control, record keeping, and general management functions and toward functions supporting the provision of pharmaceutical care.[xvi]

Mission and Models: Simultaneously, health care reform efforts are providing the impetus to explore and develop interdisciplinary, collaborative models of care delivery that focus on increasing the quality and effectiveness of pharmacotherapy. Assuring optimal outcomes requires the combined knowledge of several professions in contributing to the design, implementation, monitoring, and assessment of medication regimens. The pharmacist is a logical and necessary participant in such a team effort. In addition, today's stronger focus on health promotion and disease prevention is consistent with the pharmaceutical care mission. Finally, demographic and epidemiological changes support the movement to pharmaceutical care: both an aging population whose members use more drugs and a relative increase in chronic disease that requires long-term, often complex management help drive the change in the pharmacy profession.

Structure of Education: Paralleling the movement toward pharmaceutical care is the movement toward fundamental change in pharmaceutical education, specifically a change from a two-tiered system that allows either a baccalaureate or doctoral degree for entry into the profession to a single-tier program that requires a four-year "Pharm.D." degree as the minimum requirement for professional practice. While this change has been discussed within the profession for more than forty years, it has only been in the past decade that the issue has acquired a sense of urgency, due in large part to the rapid changes occurring in the health care delivery system, which has resulted in more intense analysis and strategic planning.

In 1989, the American Association of Colleges of Pharmacy (AACP) appointed the Commission to Implement Change in Pharmaceutical Education. That same year, the American Council on Pharmaceutical Education (ACPE), the accrediting body for pharmaceutical education, presented its **Declaration of Intent** to revise accreditation standards within the possible context of a single-tier, doctoral-level degree for pharmacy. The ACPE proposal is currently under review by the profession. Final action will be taken by the ACPE in 1997, after it has heard comments from the profession. In 1992, the AACP agreed to urge all of its member schools to adopt the four-year Pharm.D. program as the sole entry-level degree program. Further, the AACP urged schools to examine and revise, if necessary, their existing doctoral programs to ensure that they are based on and reflect the philosophy of pharmaceutical care. This change mirrors the understanding that preparation for delivering pharmaceutical care and practicing in a rapidly changing health care system requires a professional curriculum of a scope and nature that are not possible in a baccalaureate program.

For pharmacists already in practice, the movement toward pharmaceutical care demands a rethinking of the content and process of continuing pharmacy education. In the years since, 75% of American schools of pharmacy have affirmed their support for or chosen to convert to the single-tier, doctoral-only program. All national pharmacy practice organizations also have voiced their support of the Pharm.D. as the sole entry degree.

Practice and Education: Despite the strength of forces encouraging the movement to pharmaceutical care in practice and education, significant issues remain:

Cognitive barriers- How can pharmacy educators develop appropriate new curricula and how can current practitioners know what additional training they need? How can they maintain or develop a contemporary set of competencies as the profession changes?

Situational barriers- How can practitioners overcome constraints of time, setting, economic factors, reimbursement policies, and informational needs?

Legal and regulatory barriers- How can the profession deal with restrictive laws and professional practice regulations?

Attitudinal barriers- How can pharmacists, other health professionals, and health care consumers come to understand the new role of pharmacists as pharmaceutical caregivers?

In addition, both the evolution of the health care system to managed care and the transition of the pharmacy profession to the provision of pharmaceutical care will require a reassessment of the numbers of pharmacists needed, a reassessment that is currently being addressed by the profession. The cost/benefit ratio of providing pharmaceutical care and mechanisms for compensation for pharmaceutical care also need to be made clear.[xvii]

Conclusion

Adopting the mission of pharmaceutical care represents a **fundamental change** for the pharmacy profession. The movement toward this new practice philosophy has the potential to allow pharmacists to participate more fully in the re-engineered health care system and to contribute to the enhancement of value in health care, thereby helping to reduce runaway health care costs while improving quality and assuring positive outcomes for patients. The shift in focus from the provision of drug products to collaborative, team-based care of patients positions pharmacists as viable and valuable partners with consumers and other health care professionals.

The process of educational evaluation and reform that has accompanied this professional evolution can serve as an example as other health care professions re-examine their missions in light of ongoing changes in the health care delivery system.

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